CONFLICT, UNCERTAINTY, AND COLLABORATION IN MULTIPLE USE LAND MANAGEMENT PLANNING FOR A SOUTHERN APPALACHIAN NATIONAL FOREST

by

JONATHAN PHILIP KOUHI HALLEMEIER

(Under the Direction of Don Nelson)

ABSTRACT

Governance of multiple use forests is complex and often involves contention among actors with diverging interests, values, and relationships with the landscape. Collaborative and participatory approaches to environmental governance are called upon in the face of such contention and complexity. The lure of collaboration comes in part from its many promises – it can bring in more voices for equitable decision making, bring together diverse perspectives and knowledge to better account for complexity, manage or even transform conflict, and to fill gaps created through neoliberal policies that have decreased the capacity of management agencies. However, collaborative environmental governance is difficult to implement in practice, at times beset by ongoing contention, critiqued as ineffective, or captured by powerful actors for their own ends. In this dissertation, I seek to expand knowledge of collaborative governance and its challenges and tradeoffs through three lines of questioning: how do individuals define and enact collaborative governance, how do individuals forge collaborations amid contention, and what drives intractable conflict amid collaboration. I find that collaboration is

fundamentally multiple and individuals may define what collaboration is and ought to do using differing interpretations of collaborative ideals with fundamental tradeoffs among them. These various interpretations of collaboration further have substantive implications for governance, and I argue that the work of forging collaboration must be analyzed in terms of the underlying assumptions and discourses that drive specific, situated collaborative efforts. Finally, I find that even when individuals' visions for future landscapes overlap, there remains potential for tensions in the form of entangled social and ecological uncertainties that defy technical solutions, such as adaptive management.

INDEX WORDS: Collaboration, environmental governance, environmental conflict, uncertainty, National Forests, landscape planning

CONFLICT, UNCERTAINTY, AND COLLABORATION IN MULTIPLE USE LAND MANAGEMENT PLANNING FOR A SOUTHERN APPALACHIAN NATIONAL FOREST

by

JONATHAN PHILIP KOUHI HALLEMEIER

B.A., Valparaiso University, 2007

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2021

CONFLICT, UNCERTAINTY, AND COLLABORATION IN MULTIPLE USE LAND MANAGEMENT PLANNING FOR A SOUTHERN APPALACHIAN NATIONAL FOREST

by

JONATHAN PHILIP KOUHI HALLEMEIER

Major Professor:	Don Nelson
Committee:	Ted Gragson
	Laura German
	Jeff Hepinstall-Cymerman
	John Schelhas

Electronic Version Approved:

Ron Walcott
Vice Provost for Graduate Education and Dean of the Graduate School
The University of Georgia
December 2021

ACKNOWLEDGEMENTS

This research was only possible through the contributions of many people and institutions. I thank my family and friends who have consistently supported me and listened patiently to my stories and theoretical musings. My colleagues in the Human and Environmental Change Lab, the Department of Anthropology, and the Integrative Conservation Program have been invaluable in my growth as a scholar, expanding my understandings of social-ecological relationships and drawing my attention to new ideas, insights, and connections. My advisor, Don Nelson, and committee, Ted Gragson, Laura German, Jeff Hepinstall-Cymerman, and John Schelhas, have helped me in every step of this process as I struggled to design research, interpret data, and write up my findings. The best parts of each chapter I attribute to their comments, while the continued weaknesses remain my own. I also thank the Anthropology and Environment Society, the Coweeta Listening Project and Coweeta Long Term Ecological Research Station, and the UGA Graduate School for support in making my research possible. Most importantly, I thank all the people who gave their time talk with me and share their knowledge and passion for the southern Appalachian landscape and the Nantahala and Pisgah National Forests. Specifically, I thank all the members of the Nantahala-Pisgah Forest Partnership, the Fish and Wildlife Conservation Council, the Stakeholders Forum for the Nantahala and Pisgah Plan Revision, and the U.S. Forest Service planning team. Finally, I thank the National Forest Foundation and its Conservation Connect Fellowship Program and Southwest Decision Resources for helping me move from theory to practice by providing

mentorship, training, and experience in the skills required to navigate contentious issues and facilitate consensus building.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

CHAPTER 1

INTRODUCTION AND SITE DESCRIPTION

Introduction and Research Questions

Governance of multiple use forests is complex and often involves contention among actors with diverging interests, values, and relationships with the landscape. Collaborative and participatory approaches to environmental governance are called upon in the face of such contention and complexity. The lure of collaboration comes in part from its many promises – it can connect those who affect or are affected by environmental issues for more effective and equitable decision making, bring together diverse perspectives and knowledge to better account for complexity, and manage or even transform conflict that may paralyze action (Ansell and Gash 2008, Emerson and Nabatchi 2015). Indeed, collaboration appears to be with us to stay, with continued calls for collaborative approaches and attempts to institutionalize them in the policies and directives of environmental organizations and agencies. However, collaborative environmental governance is difficult to implement in practice, at times beset by ongoing contention, critiqued as ineffective, or captured by powerful actors for their own ends (Walker and Hurley 2004). In this dissertation, I seek to expand knowledge of collaborative governance and its challenges and tradeoffs through three lines of questioning: how do individuals define and enact collaborative governance, how do individuals forge and sustain collaborations amid contention, and what drives intractable conflict amid collaboration.

These lines of questioning are rooted in conversation between a varied scholarship dedicated to environmental collaboration and my engagement with emerging conflict and collaboration around a land management plan revision for the Nantahala and Pisgah National Forests in the southern Appalachians. The planning process, which began in 2012, provided an ideal setting for asking questions about conflict and collaboration. The southern Appalachian are home to diverse social-ecological communities entangled with varying histories, cultural values, identities, and livelihoods. The finalized plan would guide management for fifteen years or more and the planning process became an arena for both contesting what forest governance ought to look like and seeking collaborative visions for the future. The Forest Service's multiple-use mandate meant that the agency had to navigate how to balance multiple, potentially conflicting values, and public participation requirements opened space for robust debate over what that balance ought to look like and what priorities should be institutionalized in a revised forest plan.

Arguments over the forest and its management played out in public meetings, media, rallies, and in over 16,000 public comments submitted to the Forest Service. At the same time, multiple efforts emerged to find collaborative paths forward. The social and ecological complexity of the landscape, histories of contention, and ongoing interactions in the planning process converged to create a situation in which conflict and collaboration over forest governance were visible and made available to collection and analysis. Beginning in 2012 and continuing through 2018, I engaged with the planning process and individuals navigating its social, ecological, and political complexities.

Various streams of scholarship may be used to investigate the collaboration and conflict that emerged in the Nantahala and Pisgah planning process. Here, I focus on collaborative environmental governance. Collaboration may refer to cooperation among individual scientists, nongovernmental organizations, government agencies, or other constellations of actors working to create knowledge, implement projects, decide policy, or make plans (Conley and Moote 2003). While all these forms of collaboration may influence environmental governance, not all necessarily constitute collaborative governance efforts, which requires intentional bridging of differences for the purpose of decision making and management with an implication of meaningful participation of varied communities, interests, or stakeholders (Ansell and Gash 2008, Emerson and Nabatchi 2015).

Collaborative governance is researched in many disciplines, such as planning, policy, public administration, conflict resolution, natural resource management, political ecology, conservation and development, anthropology, and others (Ansell and Gash 2008, Walker and Hurley 2004, Innes and Booher 1999). With these fields come many lenses and frameworks, such as collective action theory, the commons, institutional fit, social-ecological systems, network perspectives, theories of learning, deliberative democracy, discourse approaches, and others (Daniels, Walker, and Emborg 2012, Dressel et al. 2020, Fischer 2006). The purposes of these lenses also vary, with some seeking to improve agency or nongovernmental organization practices of collaboration, to evaluate the outcomes of collaborative policy, to critique the failures of those practices or policies, or to understand what fosters or undermines collaborative efforts.

A primary axis of variation among the many approaches to collaborative governance concerns the reasons for collaboration. For example, participatory and collaborative approaches may be primarily viewed as a reaction to the failure of top-down, technocratic management reliant on outside expertise rather than local knowledge and institutions (Ansell and Gash 2008). Or collaborative governance may be criticized as a formalized process and box to be checked by decision makers or other powerful actors to legitimize their own decisions (Cooke and Kothari 2001). Or collaboration may be related to the push for decentralization in the context of neoliberalism and the "hollowing out" of the state, used to bolster legitimacy and acceptance of antidemocratic policies, offload management costs to the private sector, and spread neoliberal rationalities to local contexts (Cooke and Kothari 2001, Hilgers 2010, Ferguson 1995, McCarthy 2005). Other views of collaboration highlight the need to address inequality in environmental decision making or the complexity of social-ecological systems that require various perspectives and sorts of knowledge (Bouwen and Taillieu 2004). Conflict also plays a prominent role in some treatments of collaboration, proposed to navigate paralysis caused by intractable conflict over environmental issues and the potential of place-based collaborations to recognize interdependence and common ground (Wondolleck 2013).

Within the Nantahala and Pisgah land management plan revision process, individuals spoke of all these motivations underlying collaborative governance. Proponents attributed collaborative governance an abstract moral and pragmatic weight, describing the promise of collaboration to address equity issues, integrate knowledge to confront complexity, create flexible institutions to adapt to change, increase capacity and

efficacy, manage conflict, and provide legitimacy and social license for decisions. The variety of understandings of collaborative governance represented in both scholarship and the discourse of those engaged in the forest plan revision prompts the first line of questions at the heart of this dissertation concerning what is or counts as collaborative governance.

The flexibility of collaboration and its definitions is often cited as an obstacle to the development collaborative governance theory, with research focused on the "species" of collaboration in the form of idiosyncratic case studies rather than the "genus" of collaboration as a cohesive set of approaches (Ansell and Gash 2008). Similarly, it can be unclear whether critiques of collaborative governance are aimed at collaborative governance per se or flawed implementation that does not meet standards of "true" collaboration (Innes and Booher 2016). While some authors seek to address these issues with more precise definitions and frameworks, such strategies ignore the possibility for multiple perspectives in which healthy collaboration from one position may be understood as collaboration with the enemy or the mere rhetoric of powerful actors from another perspective (Cooke and Kothari 2001, Walker and Hurley 2004)

The potential for multiple understandings and practices of collaborative governance is rarely centered in scholarship. I take the variety of definitions, purposes, and ideas associated with collaboration in scholarship and practice as indicative of a "terrain of debate" (Murray Li 2007) in which individuals contest what collaboration ought to mean as part of their navigation of environmental politics. Thus, rather than using a researcher-generated definition, I ask how various individuals define and enact collaboration and what is at stake in different ways of envisioning collaborative

governance. Chapter 2 explores these questions in the context of three overlapping and competing groups that emerged to comment on the Nantahala and Pisgah plan revision process. The Nantahala and Pisgah planning process occurred under the 2012 Planning Rule, which provided new direction for Forest Service planning processes and specifically emphasized collaboration. Collaboration was thus encoded in formal planning directives and informal narratives of forest management, creating incentives to claim collaboration as a path to legitimacy and influence within the planning process. I examine how the three groups defined what and who was collaborative, the tradeoffs implicit in different formations of collaboration, and how discourse of collaboration was used to navigate the planning process.

While the meaning of collaborative governance may vary and be contested, the material relationships and participatory processes at the center of such discursive disputation are real. The creation of such relationships across differences in the pursuit of improved governance is of interest regardless of what it is called. Scholarship of collaboration has produced insights into what fosters or undermines collaborative relationships, such as matters of trust, leadership, and facilitation (Ansell and Gash 2008, Emerson and Nabatchi 2015). However, such work largely draws attention to the form of collaboration as a defined process of structured dialogue or network of relationships. What can be missed in the focus on form are the substantive implications of emerging collaborative efforts for environmental governance in terms of underlying assumptions and visions. Anthropologists and others have long interrogated the discourses that underlie efforts to improve environmental governance (Scott 1998, Murray Li 2007, McElwee 2016), and in Chapter 3 I ask how individuals forge collaborations across

difference through substantive negotiation of values, worldviews, knowledge, and strategy. This chapter focuses on one of the three collaborative groups mentioned above, the Nantahala-Pisgah Forest Partnership, and the work of members to create a cohesive vision of collaborative governance in the face of limited time and resources, internal tensions, and a complex social, ecological, and political context.

A critical piece to understanding how collaborative relationships are forged across difference is understanding what drives contention. A third and final line of questions emerged from contention that sustained despite ongoing collaborative efforts and what appeared to be overlap in participants' visions for the future of the forest. Conflict over landscapes is often explained in terms of competition over access and resources or diverging interests, values, and worldviews, which failed to account for continued conflict around areas of shared visions (Farrell 2015, Mansfield et al. 2015). Likewise, explanations that point to ecological uncertainty and problems of trust were inapplicable in a context where there was broad support for adaptive management and contention occurred even among individuals with established relationships forged through collaboration. Chapter 4 seeks an explanation for what drove this intractable conflict, examining participants' narratives of controversial issues and the entangled social and ecological uncertainties that animated debates.

In the following sections, I provide an overview of my methods and introduce the study site, including the ecological complexity of the Nantahala and Pisgah, its history, and the contention that grew around the forest planning process.

Methods

This research examined evolving conflicts and collaborations around the management of the Nantahala and Pisgah National Forests. The bulk of the research was directly tied to a land management plan revision process that began in 2012 and has not yet been finalized at the time of writing. The planning process provided a crucible for conflict, argumentation, and collaborative efforts, providing an ideal site for the research. I conducted two types of fieldwork: 1) long-term fieldwork in which I made consistent trips between 2013 and 2017 from Athens, GA to western North Carolina to attend meetings and conduct interviews and 2) short-term intensive fieldwork for an additional ten months in 2018 in which I lived in western North Carolina and continued to attend meetings, conducted the bulk of my interviews, and participated in forest-related activities. While the data for this dissertation stem primarily from this five-year research period, I remained engaged with the forest planning process through 2020, about which I will say more below.

A primary research method was participant observation of forest planning related meetings, including Forest Service public meetings, county meetings, and the meetings of three groups that positioned themselves as collaborative voices in the planning process: the Nantahala-Pisgah Forest Partnership (NPFP), the Fish and Wildlife Conservation Council (FWCC), and the Stakeholders Forum for the Nantahala and Pisgah Forest Plan Revision (SFNP). The NPFP formed in 2013 with the beginning of forest planning. It emerged out of an initial set of meetings among representatives of largely environmental and recreation groups and expanded as participants came to envision a broad-spectrum collaborative forest-planning effort and invited others to join. The group came to include

representatives from a wide range of national and local groups, organized around seven interest areas: conservation, cultural heritage, economic development and tourism, forest products, recreation, water, and wildlife. The FWCC, which had been founded in 1992, reorganized to focus on forest planning. In part because of distrust concerning the environmental organizations critical to forming the NPFP, FWCC leadership did not join the NPFP and framed themselves as a collaboration of wildlife and hunting groups and local people.

The Forest Service had not pursued collaborative initiatives of its own at the beginning of the planning process, but due to a period of intensifying contention over draft plan pieces and the multiple, competing collaborations, the agency initiated what some at first spoke of as a "super collaborative" that brought together selected individuals from the NPFP, FWCC, and others outside those two groups. This group became the SFNP and developed equal representation among four interest areas: wildlife, environmental conservation, forest products, and recreation. The SFNP did not subsume the other groups and instead joined them as a third group framing itself as a forest planning collaborative. Further, all three groups were consistently framed as collaborations by Forest Service employees. The groups were overlapping but were also in competition with one another as individuals sought to influence the forest plan. While some individuals participated in two or even three of the groups, each group had distinct memberships, ways of organizing meetings and activities, and dynamics within those meetings.

I chose the meetings of these three initiatives as a primary site of research because of the rich interaction and argumentation made visible within them (Schwartzman 1989).

Forest planning and collaborative meetings were sites of forming and performing identity and articulating and arguing values, knowledge, and worldviews. Further, meetings were sites of power relations and consequential decision making in which individuals navigated both other participants and a broader political and social landscape.

The focus of my observation within meetings was on participants' narratives of the Nantahala and Pisgah in which they characterized the social, political, and ecological actors driving forest patterns, established the history and purpose of the forest, and articulated future goals and threats. Narratives brought together personal experiences, community histories, moral beliefs, environmental values, and scientific and local knowledge to communicate and argue for their vision of the Nantahala and Pisgah (see also Lejano, Ingram, and Ingram 2013, Leach, Scoones, and Stirling 2010). Such narratives were used in efforts to form alliances as well as to stake out boundaries and divisions. Data from meetings included my personal fieldnotes, official meeting records, and other documents produced for or from meetings, such as presentations and plan recommendations.

In addition to observation, I at times participated actively in meetings. As part of my observation in the meetings of the NPFP and SFNP, I periodically provided official meeting records for these groups. As part of an internship, I further participated in NPFP through technical support for collaborative mapping efforts, using ArcGIS and ArcGIS Online platforms to create GIS layers and maps for group conversations. After my long-term and short-term intensive fieldwork periods from 2013 to 2018, I continued to work with collaborative forest planning efforts in 2019 and 2020 as a National Forest

Foundation (NFF) Conservation Connect Fellow[1] in which I supported SFNP meetings through notetaking, aiding agenda formation, and facilitation.

Another primary source of information was gained through extensive semi-structured interviews with forest planning participants. I conducted 74 interviews, with interviewees chosen purposively to include all key actors involved in the forest planning process through the NPFP, FWCC, and SFNP and to represent the heterogeneity of interests and geography involved with these groups. Interviews ranged from 45 minutes to two hours in length and focused on individuals' forest values or interests, perceptions of change and threats to the forest, visions of the future, and understanding of collaboration. Interviews were conducted between 2013 and 2018 in the place of the interviewee's choosing and recorded with permission.

In addition to participant observation and interviews, I collected documentation of arguments over the national forest in the form of media accounts and public comments submitted to the Forest Service. Throughout the research period, there were extensive media representations of the forest planning process and the collaborative efforts surrounding it, written by or with quotes from participants in the three groups that made up the core of this research. I collected these documents as mentioned within the context of meetings or identified through a Google alert.

1 The Conservation Connect Fellowship Program is an initiative of the National Forest Foundation and supports masters and doctoral students through training and a practicum that involves them in National Forest issues around the country.

Finally, I conducted observation and participant observation of forest related activities. I participated in field trips with FWCC, NPFP, and SFNP, including road and wildlife opening maintenance with the FWCC and site visitations and recreation trips with the SFNP. With specific groups and individuals involved in the forest planning process, I helped with trail work, hiked, visited sensitive ecological areas, went hunting, and visited an active timber harvest site and hardwood mill. As in meetings, the focus of observation was on people's narratives of the forest, with the addition of noting the material relationships individuals had with the landscape and what parts of the forest they noticed or interacted with that fueled their personal experiences, narratives, and identities. Data from these experiences were typed up as fieldnotes. Fieldnotes, transcribed interviews, and other documentation were all organized by date and type within MaxQDA (VERBI 2018) for qualitative analysis.

The precise data and analysis used for each part of the dissertation will be described for each chapter, but it is worth noting here that my methodologies in all chapters relate in some way to actors' narratives. In my analysis, I largely seek to uncover what narratives prominently shaped conflict and collaboration and how these narratives were used by individuals in navigating the forest planning process. The point here is not to validate which narratives were true, but to understand what narratives motivated individuals, shaped identity, held together alliances, dominated divisions, and helped people understand and negotiate a complex social-ecological context. That is, I approached narratives as the stuff of forest politics that both reflected and shaped realities of forest management. Narratives by necessity highlight some things, ignore others, and are bound to specific positions and perspectives, and I found the narratives of all

participants to include important considerations and insights while missing or muting other issues. My emphasis on partiality of narratives in some ways reflects the diversity of experiences and ways of knowing represented within collaborative efforts. It also reflects the dynamism of narratives, which shifted with relationships, events, information, and conflicts (Strauss 2012). Thus, I approached narratives as a window to understanding the dynamics of conflict, collaboration, and forest politics as navigated within meeting rooms, which is distinct from analyses of governance narratives or discourses that aim to uncover underlying biases or misconceptions (Winkel 2012).

Navigating Participation and Research

My dual roles within the plan revision process as a researcher of and participant in multiple collaborative efforts created challenges for research as well as ambiguities that required careful ethical consideration. Some NPFP, SFNP, and FWCC participants held deep distrust of other initiatives and actors, and my association with other groups and participants were grounds for apprehension. Indeed, my initial introduction to forest planning collaboration was with the NPFP, but as the forest planning process unfolded, my research expanded to encompass the broader forest politics at play. Yet, I remained committed not only to the research of collaboration but also to practice, and I sought to continue my roles in supporting efforts of those who generously shared their time, knowledge, values, and narratives. Developing rapport with groups of individuals who did not trust one another while also participating in competing collaborative efforts involved limiting my participation to technical support during my research periods (e.g., note-taking and mapping with the NPFP and SFNP) and volunteer projects (e.g., road and

wildlife opening maintenance with the FWCC) while also spreading my efforts to each group.

Growing rapport and active participation within the three groups raised ethical questions regarding my multiple roles. Individuals were navigating sensitive political contexts, and my role as participant could lead some to forget my role as a researcher, with the potential for sharing information or ideas meant for group members. Such considerations extended into interviews – while some participants were clear that they would be happy to have their names associated with anything they said, others were hesitant and expressed concern about how information about specific perspectives, strategies, and conflicts would be made visible in my writing with potential negative consequences in the context of fragile developing relationships and ongoing controversy. One aspect of navigating potential ambiguity was seeking transparency by consistently introducing myself in terms of my role as a researcher from the University of Georgia and the Coweeta Listening Project[2]. Another aspect was committing to anonymizing data from interviews and keeping information confidential at request (which was part of the interview consent letter) and erring on the side of anonymizing and at times keeping confidential data from meetings, even those technically open to observers from the public but in which delicate issues were broached.

2 The Coweeta Listening Project (CLP) is a social science group associated with the Coweeta Long Term Ecological Research Station located in the Nantahala National Forest near Otto, NC. I engaged with the forest planning process as a CLP research associate.

I have strived in presenting my research to keep focus on emerging patterns of conflict and collaboration rather than on specific people, organizations, or interactions. In this, I hope to balance accountability to the individuals and organizations who provided me access to their work navigating dynamic relationships and difficult issues and my responsibility as a researcher to clearly present findings. Anonymizing data was complicated in the context of a relatively small number of participants familiar with one another and much of my presentation aims to abstract from particular instances to patterns in a way that may be unusual for anthropology, a discipline that often centers ethnographic detail. However, I believe my analysis and presentation balances academic needs to contribute to knowledge concerning conflict and collaboration and the concerns of those I have worked with in this research and the sensitive nature of ongoing forest politics.

What Is Missed

I chose to focus my research on ongoing conflict and collaboration among participants in the NPFP, FWCC, and SFNP. These groups provided access to rich interactions inside and outside meetings as individuals negotiated differing worldviews and sensitive politics in their attempts to forge alliances and influence forest governance. However, my approach had distinct limitations. Specifically, there were many voices that were absent from the meeting rooms and groups at the center of this study. For example, most of the participants involved in the various collaborative groups were white, not representing the racial diversity of the region. Further, the participants of these groups were largely self-selecting, and participation relied on ability to attend meetings,

information networks to be aware of meetings, and agreement with the premises on which meetings were base, such as the validity of federal ownership of forest lands and the importance of forest planning.

Conspicuously, Native American voices are largely missing from this research. A primary reason for this was that the Eastern Band of Cherokee Indians (ECBI) and other nations with claims to the land were not stakeholders in the forest planning process. There was some participation of members of the ECBI in these collaborations, but tribes had direct government to government contact concerning the forest plan. Research about Cherokee perspectives and claims on the Nantahala and Pisgah and its management deserves its own dedicated work.

The limitations of this research mean that the analyses be read for what they are – an account of contention and collaboration that played out among a specific set of participants. The focus is thus on the roots and drivers of conflict and collaborative efforts as they played out rather than on what these efforts missed or how collaborative efforts and landscape planning processes served to limit possibilities or exclude certain people or perspectives (see Brosius, Tsing, and Zerner 2005, Cooke and Kothari 2001). I shall return to this theme of what is missing in my concluding chapter and lessons of this research for understanding conflict and collaboration.

Site Description

The southern Appalachians hold some of the most biodiverse temperate deciduous forests in the world, with thousands of species of flowering plants, hundreds of mosses, more tree species than any area of comparable size in the US, the world's highest

diversity of salamanders, significant diversity of fish and muscles, and many endemic and threatened plants and animals (Spira 2011, Jenkins 2007, Jenkins et al. 2015). The round peak mountains provide dramatic relief and topographic diversity, with many summits over 6,000ft (including Mt. Mitchell, the tallest peak east of the Mississippi) towering thousands of feet over river valleys below (Silver 2003). The 1.1 million acres of the Nantahala and Pisgah themselves are scattered through 18 mountain counties of western North Carolina and fragmented by private holdings and development. Embedded within the broader region, the national forests are valued for timber and nontimber forest resources, tourism, recreation, cultural heritage and identity, biodiversity conservation, and water, among other attributes (USFS 2014).

The heterogeneity of forest habitats, ownership patterns, and human use and values all reflect specific social-ecological histories that continue to unfold to shape unknown forest futures. In the following, I outline some of the social and ecological factors that contribute to shaping forests and then provide a brief history of the Nantahala and Pisgah.

Social-Ecological Forests

Current forest associations in the southern Appalachians have been shaped by climate, topography, soils, plants, animals, humans, and disturbances as well as their complex interactions and the legacies created through these interactions (Silver 2003, Braun 1951). Forest communities are prominently shaped by climatic factors, such as temperature, moisture, and light, which are regulated by regional climate and latitude but also local factors such as topographic positions that may be more or less exposed to light

and wind, which in turn influence evaporation and moisture. Topography, or physiographic factors, include slope, elevation, exposure, and aspect, all of which influence temperature, light, and other considerations. Soils, or edaphic factors, concern the nature of soils, such as moisture retention, texture, composition, chemistry, etc., which in turn are influenced by underlying rock, slopes, and biotic interactions (Braun 1951, USFS 2014).

Competition among trees and other plants for light, moisture, and nutrients occur within the constraints of physical climatic, physiographic, and edaphic factors but also influence them (Braun 1951). For example, the availability of moisture, which is influenced by climate, slope, aspect, and soil composition, may limit what tree species can become established in a specific site. Yet, colonizing tree species can change soil composition, light conditions, exposure to wind, fuel for fire disturbances, and other factors that will shape conditions for future plant growth and competition (West, Shugart, and Botkin 2012). These interactions among plants are further complicated by other organisms, such as the direct pressures herbivores, the work of beavers and other ecosystem engineers, and fungi that may aid the growth of some species through mycorrhizal associations (Greenberg and Collins 2015, Facelli et al. 2010). Humans also participate in forest communities through livelihood and management practices, such as hunting, gathering, clearing for agriculture and abandoning old fields, moving and nurturing specific species, and through the use of fire for various purposes (Greenberg and Collins 2015).

Forests are also shaped by disturbances, such as fire, wind, ice, floods, or infestations, that remove, kill, or otherwise alter canopy trees or understory plants (USFS

2014). Disturbances vary along many axes, such as frequency, spatial scale, and severity (e.g. a small canopy gap created by one tree falling or a large blowdown from a tornado or hurricane that affects hundreds or thousands of acres) (Clinton and Baker 2000, Runkle and Yetter 1987). Physical, biotic, and social forces are implicated in disturbance regimes, or patterns of disturbance. For example, fire is dependent on conditions of moisture, temperature, sources of ignition, and the availability and type of fuels created by specific assemblages of plants and prior disturbances (Lafon et al. 2017). Animals can influence fire disturbances, such as through herbivory that excludes woody plants, tree-killing infestations that create fuels, and the activity of beavers that create locally moist conditions (Greenberg and Collins 2015). Humans have long used fire directly to shape forested landscapes to favor pyrophytic plant communities (Delcourt and Delcourt 1997, Delcourt and Delcourt 1998). Disturbance regimes thus influence the mosaic of forest communities on a landscape and the balance of seral stages (e.g. the amount of early successional habitat, middle aged forest, and old growth) and structural attributes (e.g. closed canopy, open woodlands, and savannahs) (USFS 2014).

Climate, topography, soils, plants and other organisms, humans, and disturbances all influence one another and shape dynamic mosaics of forest communities over various spatial and temporal scales. Changes in climate, such as from cool and moist to warm and dry, can shift regional forest composition over the course of millennia and cycles of uplift and erosion slowly change topography over hundreds of millions of years (Braun 1951). At the same time, climate and topography can vary locally in the form microhabitats (Spira 2011). Soils are shaped through long processes of erosion as well as through local topographic conditions, the specific plant communities that colonize sites, and human

land uses (Braun 1951). Biotic assemblages change over large spatial and temporal scales of evolution, extinction, and migration (e.g. of glacial and interglacial periods) as well as locally through processes succession, such as pioneering species that grow quickly after a disturbance removes competition but in turn create contexts of competition and struggle over resources both above and below ground that favor different species (West, Shugart, and Botkin 2012). So too, human-forest relationships are dynamic, with changes to social and cultural organization broadly and to the mosaic of land uses locally (Yarnell 1998).

The current Nantahala and Pisgah National Forests are heterogenous, dynamic landscapes that are the product of all these factors and their specific histories and legacies. In the following, I describe some of the broad patterns shaping this social-ecological forest landscape. The history presented is admittedly cursory and is meant to provide broad context for the Nantahala and Pisgah land management planning process at the center of this dissertation research.

Emerging Appalachians

The topography of the Nantahala and Pisgah is dominated by the Blue Ridge Province of the southern Appalachian Mountains (USDA 2014). These mountains and their forests are ancient – the current round peaks of the southern Appalachians have been shaped by uplift events between 500 and 250 million years ago, predating the angiosperm ancestors of the broadleaf trees that currently dominate most of the region (Braun 1951). Hundreds of millions of years of erosion by wind, water, and the actions of plants and animals wore down stark rock into gentler topographies and diverse mineral and organic soils. Dramatic climate shifts related to glacial and interglacial periods mark this long

history of the Appalachians and the evolution and migration of plants and animals that include ancestors of current species as well as extinct taxa. While the southern Appalachians were not themselves glaciated, changes in temperature meant that at the end of the Pleistocene the mountains were marked by shifting boundaries of alpine and tundra habitat in the higher elevations and spruce, fir, and boreal forests in lower elevations and valleys (Silver 2003). This landscape was populated by northern plants and animals we know today as well as some extinct species, such as Pleistocene megafauna that would have influenced forest structure and composition through disturbance and seed dispersal (Teale and Miller 2012).

The Holocene and Indigenous Forests

Human arrival to the southern Appalachians corresponded with warming temperatures of the late Pleistocene and early Holocene during which plants and animals were again on the move. Tundra disappeared from the region, and spruce, fir, and other species associated with colder climates migrated northwards and up in elevation while broadleaf deciduous forests and southern species migrated into the mountains (Silver 2003). Megafauna disappeared, potentially from interactions of a changing climate and human hunting (Faith 2011). Holocene climate continued to shift through to the present, with periods of warming and cooling that ensured continued migration of species up and down elevations and around various aspects and exposures that created locally distinct temperature and moisture conditions (Silver 2003, Jenkins 2007).

Early human presence in the region took the form of relatively small and mobile groups who hunted deer, elk, and small game and gathered plant resources in mountains

that were still dominated by boreal forests (Silver 2003, Yarnell 1998). Human settlements, social organization, and livelihoods evolved with a changing landscape that came to include more mixed hardwoods with spruce and fir relegated to islands of upper elevations in the warming climate. Evidence indicates growing residential sites in river valleys in addition to hunting camps in the uplands (Yarnell 1998). The influence of indigenous peoples on their surrounding landscapes increased as they used and managed the diverse mountain habitats in the form of hunting, fishing, gathering and nurturing of wild plants, and using fire for hunting and to promote plant growth attractive to game species and encourage plant foods and medicines. Such use of fire influenced forest communities, favoring fire-tolerant species such as oaks and pines (Norman Jr and Fesenmeyer 2012, Delcourt and Delcourt 1997).

Horticulture of native plants, such as goosefoot and maygrass, began in the southern Appalachians after 2000BCE (Yarnell 1998, Gragson and Bolstad 2006), further shifting indigenous livelihoods and relationships with the landscape. Nurturing these crops meant more clearing around settlements, a pattern that increased through the adoption of agriculture based around corn, squash, and beans after 800AD (Yarnell 1998). Settlements and agricultural lands expanded in the river valleys, creating mosaics of gardens and shifting fields cleared through girdling trees and fire as well as secondary growth in previously cleared lands that became dominated by pioneering species such as pines. Rivercane was an important habitat nurtured by indigenous peoples and used for building materials and tools, and fire remained regularly used to manage surrounding landscapes for hunting and gathering of wild plants and nut crops, such as chestnuts and hickories (Yarnell 1998, Delcourt and Delcourt 1998, Davis 2011).

By the time of early European exploration of the southern Appalachians in the 1500s, the mountains were thoroughly shaped through the practices of Cherokee peoples and their predecessors. Of course, this influence varied, with the most intense influence in and around settlements and agricultural fields and in areas managed by fire where oaks and pine forests predominated. Relatively less influence occurred farther from settlements and in the highest elevations and in wetter environments, though resources of these habitats were likely still part of livelihoods and cultural practices (Davis 2011, Silver 2003). In addition to humans, the landscape was also filled with deer, elk, wolves, mountain lions, bobcats, black bear, and other animals that shaped forest processes through herbivory, impacts on herbivory, seed dispersal, and other mechanisms. For example, flocks of passing passenger pigeons caused disturbance through breaking branches due to the weight of their multitude. Beaver shaped southern Appalachian hydrology through dams built throughout the region, creating unique habitats used by many species of plants and animals (Davis 2011, Greenberg and Collins 2015). Plants, animals, and humans were all part of creating shifting forest mosaics amid complex topography and slow shifts of climate, erosion, and soil development.

Colonialism and Settler Forests

Spanish explorers in the 1500s found robust chiefdoms in the southern Appalachians, with large towns and cultivated fields. Contact brought dramatic political, economic, and demographic changes to Cherokee life. Europeans introduced diseases that decimated Cherokee populations and disrupted patterns of settlement, political organization, and trade. Early European contact also introduced new species that became

integrated into Cherokee livelihoods, such as peaches and peas (Davis 2011). Increasing contact in the 1600 and 1700s brought the southern Appalachians into the global economy, and the area became a rich source of commodities for foreign markets, notably deer skins that were sent to Europe and ginseng sent to China (Davis 2011, Yarnell 1998). The profitability of these commodities incorporated Cherokee into the cash economy and brought Europeans further into the mountains and led to declines in populations of marketable species, such as beaver, whose removal began a reshaping of Appalachian hydrology and riverine forest patterns (Greenberg and Collins 2015).

Throughout the 1700s and early 1800s, Cherokee lifeways shifted with the changing landscape and the introduced plants, animals, tools, and livelihood practices. New crops were planted and livestock such as cattle and pigs were integrated into livelihoods as wild game diminished due to inexhaustible demands of the European market (Davis 2011). At the same time, Cherokee populations continued to be impacted by waves of disease and European desire for land and resources brought settlers into the southern Appalachians, chipping away at Cherokee territory through a series of negotiated and broken treaties. Cherokee connection to the land was brutally curtailed in 1830s with the contentious treaty of New Echota and the forced removal of Cherokee peoples to territory in Oklahoma in the Trail of Tears. Cherokee who evaded removal or returned became the Eastern Band of Cherokee Indians and continue their relationships with the landscape despite continued marginalization (Davis 2011, Sharma 2021).

Settlers who colonized Cherokee lands largely farmed lowlands and river valleys, often in the same areas previously cleared and farmed by the Cherokee. Mixed farming of grains and livestock dominated, with forest uplands used as a grazing commons for pigs

and cows. Farming in many areas reflected preceding Cherokee customs, with shifting fields cleared through girdling trees and burning and then let to return to forest when yields declined (Yarnell 1998, Newfont 2012). In larger river valleys, more intensive agriculture was introduced, including plantations that exploited the labor of enslaved African Americans (Davis 2011). Similar to Cherokee practices, fire was used to promote growth for grazing livestock in the uplands and for game, which was hunted for both subsistence and cash in the ongoing trade in deer skins. Unlike game species, hogs and cattle had different implications for the landscape. Herds compacted soils, which could increase erosion and stunt plan growth, and competed with other wildlife for resources such as chestnuts and acorns. Hogs specifically impacted herbaceous and shrub layers through rooting out herbaceous plants and increasing erosion. Cattle grazing in canebrakes decimated those habitats within a few years of continued feeding. Herds were also prime vectors for spreading nonnative plant species, such as various grasses and weeds (Davis 2011, Gragson and Bolstad 2006).

Through the1800s, the mountains sustained farming and herding as well as increasing timber harvest for local building and fuelwood needs and for making charcoal to stoke iron furnaces that took advantage of local ore deposits (Yarnell 1998). The mountains were also an early destination for tourism as a summer retreat for wealthy southern plantation owners and later a location of health tourism for those prescribed clean mountain air for various ailments (Starnes 2010). These livelihood activities and economies were disrupted by the Civil War, which caused labor shortages when men left to engage or avoid battle and direct violence that impacted people and farms (Davis

2011). While many farming and herding patterns reestablished after the war, greater changes to the forest were in store in the final decades of the 1800s.

Timber Barons and the National Forests

In the late 1800s, speculation increased regarding the resources of the southern Appalachians. By the late 1800s and early 1900s, the southern Appalachians became a focal point for timber extraction when Northeastern and Midwestern timber stocks had been depleted and trains came into the mountains to make extraction profitable. Timber barons emerged and foreign capital was used to purchase vast swaths of forested uplands that were subsequently clear cut (Gragson and Bolstad 2006, Davis 2011). Clear cuts resulted in catastrophic fire fueled by slash left on the land and caused erosion and flooding that greatly degraded the land and waterways, increasing flooding even in larger cities in the piedmont much farther downstream (Miller and Lewis 2018). The purchase of land and clearing of forest impacted local livelihoods that often relied on forested upland commons for grazing, hunting, fuelwood, and nontimber forest products like ginseng that could be sold for cash. Wage labor in timber camps and mines replaced subsistence livelihoods for some (Davis 2011).

The impacts of clear cutting led to growing conservation concern, which was often allied with tourism interests. By the late 1800s there were calls for the creation of a southern Appalachian park and forest reserves (Davis 2011, Starnes 2010). The Weeks Act was passed in 1911 and permitted the federal government to buy and own land in the east, allowing for the first national forests in the area (Johnson and Govatski 2013, Miller and Lewis 2018). Other federal reserves in the United States at the time were areas that

had not yet been parceled out to the states or private owners, and there was little precedent for federal purchase of private land. The Weeks Act drew constitutional authority for such purchases from the impacts of fire and flooding on major waterways and thus interstate commerce, and federal purchases were initially limited to the headwaters of streams. Later legislation expanded potential purchase units to encompass other values and motivations, as well as expanded partnering authority established in the Weeks Act that provided a framework for federal-state collaboration around forest fire control (Miller and Lewis 2018).

In the thirty years after the Weeks Act's passage, much of the 1.1 million acres that became the Nantahala-Pisgah National Forest was acquired (Newfont 2012). Much of this land was sold by large companies that had already clear cut the purchase units, though land was also acquired from smaller landowners, particularly during the Great Depression and the decreasing viability of mountain farms (Johnson and Govatski 2013). The history of purchase units in headwaters and the patterns of purchase mean that the lands of the Nantahala and Pisgah were fragmented within and across 18 counties and weighted towards higher elevation and marginal areas, and thus not representative of the region as a whole (Newfont 2012, USFS 2014).

The first half of the 20th century saw significant transformations to the landscape in addition to the purchase of national forest lands. The growing conservation concern that had sparked the Weeks Act also drove alliances of conservation and tourism groups to pursue the creation of what became the Great Smokey Mountains National Park in 1934, displacing by eminent domain mountain smallholders dismissed as a danger to the landscape and excluding local settler and Cherokee livelihood practices from park

boundaries (Starnes 2010, Yarnell 1998). Visions of tourism dollars led to investment in increasing road networks that allowed access to tourists, most prominently the Blue Ridge Parkway, which was built in the 1930s (Starnes 2010, Silver 2003). The Great Depression also saw the rise of the Civilian Conservation Corps, which constructed recreation infrastructure on the new public lands of the region as well as planted trees, specifically white pine plantations (Newfont 2012). The Tennessee Valley Authority also left its imprint on the landscape, including Fontana Dam completed in 1944 and which inundated large parts of Graham County to provide electricity for war efforts in WWII. The 1900s also saw outmigration from the mountains, accelerating after World War II as people sought industrial jobs in cities as agriculture and resource-based industries declined (Gragson and Bolstad 2006, Davis 2011).

Further transformation of the region occurred through the introduction of the chestnut blight (*Cryphonectria parasitica*), which reached the southern Appalachians in the early 1900s. The blight, a fungus of the Asian chestnut, caused near-total destruction of native American chestnuts that had once represented one out of every four canopy trees in the southern Appalachians and provided abundant mast for humans, livestock, and wildlife. Despite massive efforts to contain the blight, it eventually afflicted chestnuts throughout their range, precipitating logging of chestnuts, even before tree death, and fundamentally changing forest composition (Davis 2011, Rutkow 2012).

National Forest Management

Over the course of the 1900s, the lands of the Nantahala and Pisgah were specifically shaped by evolving Forest Service management. The Pisgah National Forest

is home to the Cradle of Forestry, which includes former lands of the Vanderbilt estate and is the site of early scientific forest management adapted to the American context from European forestry traditions and which informed much of the early Forest Service (Jolley 1998, Newfont 2012). Early management was focused on protection and regeneration of forests and watersheds, especially through fire suppression, in keeping with the purpose of the Weeks Act. However, the Forest Service, located in the U.S. Department of Agriculture, understood national forest land largely as a timber resource for the future, guided by Gifford Pinchot's utilitarian conservation ethic (Davis 2011, Miller and Lewis 2018). After the second world war, demand for timber led to shifting priorities for the agency and a move towards increased timber production organized around a framework of sustained yield, including harvest of both regenerated and previously uncut lands (Johnson and Govatski 2013, MacCleery 2008).

Decades of increasing timber harvest and clear-cutting practices corresponded with increasing public value of national forests for recreation and ecological conservation. These growing movements resulted in a series of new legislation affecting forest governance. The Multiple Use-Sustained Yield Act of 1960 codified the multiple use mandate of national forest management for timber, recreation, range, watershed, and wildlife. The Wilderness Act of 1964 and the Wild and Scenic Rivers and National Trail Systems Acts, both passed in 1968, removed some lands from timber production for stricter protections and recreation focus. The National Environmental Policy Act of 1970 required analyses of environmental impacts of federal projects, including procedures for public comments. The Endangered Species Act of 1973 prohibited federal actions that threatened endangered species, and the National Forest Management Act of 1976 created

new requirements for increased public participation in decision making (MacCleery 2008, Abrams 2019).

These various acts and associated administrative changes reflected increasing demands on national forests and became part of ongoing conflict, prominently among environmental groups and the timber industry and timber-dependent local communities. These conflicts significantly played out in the Pacific Northwest, where successful legal action by environmental groups to protect old growth habitat of the endangered spotted owl led to dramatic changes within the Forest Service in the 1990s, pushing the agency to reduce timber harvests and prioritize conservation of sensitive species and habitats (MacCleery 2008, Winkel 2014).

These changes in Forest Service management nationally played out in the national forest politics of the Nantahala and Pisgah. Increased timber harvest led to local backlash and activism around a forest planning process begun in 1982 (Newfont 2012). The planning process sparked controversy among environmentally minded groups and those involved with the timber industry, including protests and legal action. Hunting groups and local communities in some situations allied with environmental groups to promote wilderness designations to preserve forest commons threatened by timber activities. In other situations, local communities allied against wilderness as a form of enclosure and a threat to those commons. After protests and litigation, the amended forest plan was released in 1994 and reduced objectives for timber harvest and included wilderness designations, reflecting both national and local movements (Newfont 2012, USFS 1994). Timber harvest remained well under the 1994 plan objectives, however, due to decreasing Forest Service capacity caused by policy shifts, discovery of the endangered Indiana bat

in the Nantahala National Forest, impacts of legal decisions, and decreasing timber program budgets and workforces (USFS 2014).

In the Nantahala and Pisgah, as in the national forest system more broadly, management in the past three decades has been marked by controversy. The Forest Service has struggled to navigate its broad multiple-use mandate that may be balanced in many ways, the processual demands accumulated through legislation and court cases for public participation and environmental analysis, and the competing interest groups with ability to slow down or stop management activities, creating gridlock or "vetocracy" in which various actors have veto power on management decisions (MacCleery 2008, Maier and Abrams 2018). In this context of controversy, ideas of collaboration and social forestry have arisen with the hope to forge more legitimate governance that avoids gridlock and to forge partnerships that make use of external expertise and augment decreased federal capacity. Bottom-up examples of collaboration have occurred on national forests around the country, and collaboration has increasingly been codified in policy, such as in the Collaborative Forest Landscape Restoration Program and the 2012 Planning Rule, which emphasizes the role of collaboration in forest planning (Abrams 2019, Wondolleck and Yaffee 2000, Monroe and Butler 2016, USFS 2012b).

The Landscape Context of Forest Planning

The complex social and ecological histories and their legacies all contributed to shaping the landscape at the time of the plan revision that began in 2012 (USFS 2012a). As described above, long histories of mountain uplift and subsequent erosion created a complex topography with varied elevations, slopes, aspects, exposures, and soils that in

turn influenced gradients of temperature, light, moisture, and nutrients. Changing climate and receding glaciers at the end of the Pleistocene and continued shifts between warmer and cooler periods in the Holocene contributed the rich mix of northern and southern forest communities and endemics associated with glacial refuges (Silver 2003). Indigenous land use and management coevolved with the Holocene forest, influencing plant and animal communities and prominently shaping pyrophytic chestnut, oak, and pine forests and wildlife that thrived in those habitats (Delcourt and Delcourt 1997).

Early European and American colonialism changed demographics, livelihoods, and forest composition through introduction of disease and continued displacement of Cherokee communities; market economies that decimated deer, elk, beaver, passenger pigeons, and ginseng; settlement that introduced private property, new crops, and livestock that impacted the soils and plant composition of forested commons (Davis 2011, Yarnell 1998). Private property, national demand for timber resources, and increasing railroad connectivity introduced some of the most dramatic changes to the southern Appalachians. Early 20th century land speculation and industrial clearcutting impacted forests, soils, and watersheds and precipitated the national forests and complicated mixture of federal and private ownership and management (Yarnell 1998, Johnson and Govatski 2013). Clearcutting at the turn of the 20th century and then again on national forest lands after World War II were matched by fire suppression to create large cohorts of even aged stands that often did not reflect previous forest composition, and later reduction in harvest ensured these cohorts skewed towards middle aged, closed canopy forest (USFS 2014, Kelly 2013).

Together, periods of clearcutting, fire suppression, and reduction in timber harvest have contributed to a forest that does not reflect forest mosaics prior to European contact whose composition, structure, and disturbance regimes were influenced by wildlife and indigenous practices that have been entirely removed or greatly curtailed. Impacts of industrial logging and fire suppression have left legacies on soils and the composition of canopy, shrub, and herbaceous layers (Elliott and Swank 2008, Elliott, Miniat, and Medenblik 2020). Further, waves of invasive diseases and pests have impacted forest communities, such as the chestnut blight mentioned above as well as the balsam wooly adelgid and hemlock wooly adelgid, which have removed adult Frasier fir and eastern hemlock that played roles as keystone species within specific forest associations (Elliott and Swank 2008, USFS 2014). Other nonnative invasive species are also shifting ecosystems, particularly in the context of disturbances, such as tree of heaven, princess tree, spotted knapweed, garlic mustard, and many others (USFS 2014). Pioneering natives are also reshaping the forest, such as expanding rhododendron that influence tree growth and recruitment (Elliott and Miniat 2018, Bolstad, Elliott, and Miniat 2018). Oak forests valued by indigenous and settler communities were burned frequently prior to European settlement, and Forest Service fires suppression has been matched by the interactions of mesic tree species, such as red maple, and their mycorrhizal associations, leaf litter, and canopy structures to produce processes of mesophication that cannot easily be reversed (Nowacki and Abrams 2008, Alexander et al. 2021, Carpenter et al. 2021).

The landscape was also shaped by the development of roads over the 20th century, for timber harvest, recreation, and tourism. Additional access rose with increasing recreation use, and the Nantahala and Pisgah are some of the most visited national forests

in the United States (USDA 2014). However, limited agency capacity has led to a large maintenance backlog for trails and roads, many of the latter which had been created for timber projects during the decades of sustained yield management. Increasing recreation demand has outpaced agency infrastructure, such as growing popularity of mountain biking and demand for mountain biking trails, a use that was not considered in the 1994 Forest Plan (USFS 2014). Roaded access to the region is also entangled with processes of exurbanization in which new amenity migrants build homes on upland slopes, often near national forest boundaries, in search for mountain views and recreation (Gustafson et al. 2014, Vercoe et al. 2014). These new settlement patterns have shifted demographics in the region and increased the wildland-urban interface and fragmented forested lands with few limits in counties with little zoning and a high percentage of private owernship (Gragson and Bolstad 2006).

Finally, climate change holds many uncertain implications for the forest as temperatures rise and rainfall and drought become more extreme. Some forest communities may succeed in migrating with changing climate, though there are concerns with the pace of change and for species on the highest peaks that have no space to migrate up in elevation and are also largely disconnected from potential northward migration. In addition, climate change may introduce new disturbance regimes of more frequent extreme events, such as severe fires and hurricanes (USFS 2014).

Forest Ecozones

To make sense of the rich diversity of the Nantahala and Pisgah and impacts of colonial, industrial, and federal management practices, many involved with the forest

planning process used the concept of ecozones. Ecozones describe assemblages of species associated with specific locations on the landscape related to elevation, aspect, exposure, slope, soil type, and other factors (USFS 2014). Ecozones were used in models of "natural range of variation" to provide a vision of what the forest might look like if restored to some semblance of its pre-European state and corresponding mosaic of habitats, seral stages, and disturbance regimes (Ponder 2014, Simon 2005). Ecozones and models based upon them are idealizations – the landscape cannot be sufficiently described through static categories that erase dynamic change and the perennial role of humans in shaping the southern Appalachians. However, I present the ecozones associated with the Nantahala and Pisgah to provide further context for some of the diversity located within the national forests and common language and concepts used within the planning process itself.

The ecozones commonly used in the forest plan revision were alluvial forest, shortleaf pine, pine-oak/heath, dry oak, dry-mesic oak, mesic oak, rich cove, acidic cove, high elevation red oak, northern hardwood, and spruce-fir (USFS 2014). The ecozones are generally named for dominant canopy species but refer to rich associations of flora, which in turn provide habitat for diverse fauna. These forest associations are related to specific types of sites scattered through the southern Appalachian landscape based on interrelated climatic, physiographic, edaphic, and biotic factors and anticipated disturbance regimes that would maintain ecozone types as well as create diversity of seral stages and canopy structures (USFS 2014, Braun 1951, Jenkins et al. 2015). After briefly describing the ecozones and their associated physical setting, composition, and

disturbances (based primarily on USFS 2014), I will return to the limitations of this categorization scheme and the role it played in forest planning.

Low Elevation Ecozones

The floodplain forest and its floodplain and riparian subtypes are found in valley floodplains and riparian zones characterized by proximity to water, relative flat land, and sandy soils. Because of the history of the Nantahala and Pisgah, which will be described more below, the floodplain forests make up only around 0.3% of the 1.1 million acres of the national forests. Overstories are often dominated by sycamore, tulip poplar, white ash, and silver maple on floodplains with the potential for hemlock and other species in riparian zones. Similarly, floodplains are characterized by a dense shrub layer whereas riparian zones by deciduous shrubs and herbs, such as black alder, silky dogwood, and the federally endangered Virginia sweetspire. Disturbances historically consisted of flooding, often of short duration, high winds from hurricanes, and the activities of beavers, which would generate single tree or small group openings. Fire was infrequent in these areas.

The shortleaf pine ecozone, which makes up about 4% of the Nantahala and Pisgah, occurs under 2300 feet of elevation on exposed slopes and ridges with thin and acidic soils. The overstory is dominated by shortleaf pine with mixtures of red oak, pitch pine, chestnut oak, post oak, blackjack oak, and others, with potential for mesic species such as white pine in the absence of fire. The understory may include ericaceous shrubs, such as blueberries and mountain laurel, with diverse herbaceous layers in years after fire. Windstorms, tornadoes, beetle infestations, and fires are the primary disturbances of

this ecozone, at times leading to group or stand replacement events. Historically, fire maintained a partially open canopy structure and influenced species composition with the elimination of more mesic interlopers.

Middle Elevation Ecozones

The Pine-Oak/Heath ecozone makes up around 10% of the Nantahala and Pisgah and in some respects resembles the shortleaf pine ecozone but at elevations between 2000 and 4500 feet. This ecozone resides on exposed ridgetops and steep slopes, often with a southerly or westerly exposure and on acidic, thin soils with low moisture. The forest is dominated by pitch pine or table mountain pine with the addition of chestnut oak, black oak, scarlet oak, black gum and others, with an ericaceous shrub layer as in the shortleaf pine ecozone. Also as with the shortleaf pine ecozone, wind, beetle infestations, and fire were prominent disturbances, maintaining a partially open canopy structure.

Three oak-dominated ecozones occur at the middle elevations, distinguished along a moisture gradient of dry, dry-mesic, and mesic. The dry type covers around 6% of the national forest, largely between 1000 and 4000 feet on rocky south and west-facing aspects that are convex and exposed. The soils are thin and acidic and moisture is a limiting factor. American chestnut was an important part of this ecozone, as in all the oak-dominated ecozones, of which more will be said in a following section. Other oaks dominate in lieu of chestnut removed by the blight, such as chestnut oak, scarlet oak, and black oak. The shrub layer is ericaceous, including mountain laurel and lowbush blueberry, and there is low herb density except where the midstory is sparse in some

subtypes of the dry oak ecozone. Disturbance events include wind, ice storms, and fires, with more frequent and severe disturbances than the dry-mesic and mesic types to follow.

The dry-mesic oak ecozone covers 10% of the forest and lies between 2000 and 4000 feet, largely on ridges, concave upper slopes, and dry coves. The soils are deeper than in the dry oak ecozone, but still relatively acidic, with white oak, red oak, scarlet oak, and black oak in the canopy. As with the dry oak zone, there is an ericaceous shrub layer of mountain laurel and bear huckleberry and a herb layer that becomes more diverse with lower shrub densities. Fire and other disturbances play less of a role here, with occasional fire and gap-phase dynamics the major influences (gap-phase refers to old trees eventually dying and creating a gap, which is filled by understory trees released from shading out).

The mesic oak ecozone covers about 18% of the forest and lies between 2500 and 4000 feet. It is the most protected of the three middle elevation oak ecozones, lying in partially sheltered convex landforms, especially on eastern aspects. The soils are deeper than the previous oak ecozones and there are both acidic and rich subtypes. White oak, red oak, chestnut oak, and diverse hickories occur in the overstory with dogwood common in the midstory. Acidic subtypes have abundant shrub layers of bear huckleberry, buffalo nut, and mountain holly, and basic subtypes rich herbaceous layers of black cohosh, bloodroot, maiden-hair fern, and others. Occasional fires are part of the disturbance regime, along with gap-phase dynamics, as with the dry-mesic ecozone.

The final two ecozones of the mid elevations are the acid and rich cove forests. Acid coves cover about 23% of the forest and sit in sheltered coves, slopes, gorges, and valleys, often on north facing slopes. Moist conditions predominate and the soil nutrients

are the primary limiting factor with low pH values. Tulip poplar, hemlock, yellow buckeye, and black birch make up the overstory, and often reach large diameters. A dense shrub layer of rhododendron species and dog hobble dominates the understory where there are few herbaceous plants but diverse bryophytes. Large scale disturbances and fire are uncommon, with small scale disturbances of wind, ice storms, and gap-phase creating small gaps.

Rich coves ecozones cover about 18% of the forest, also in sheltered areas and often on north facing slopes of the mid elevations most often between 2500 and 4000 feet. Conditions are moist, but unlike the acid cove, rich coves soil's more basic chemistry make this ecozone one of the most diverse forest ecosystems outside tropical zones. High diversity in the overstory can include tulip poplar, basswood, sugar maple, silverbell, cucumber magnolia, black cherry, and others. There are few shrubs, which are often deciduous, such as sweet shrub and spicebush. The herbaceous layer is very diverse, including black cohosh, bloodroot, and American ginseng in addition to high epiphytic moss and liverwort diversity. Largescale disturbances are rare, as in the acid cove, with wind, ice storms, and gap-phase driving canopy change.

High Elevation Ecozones

Three ecozones characterize the higher elevations of the Nantahala and Pisgah. The first, high elevation red oak, covers about 4% of the forest and lies in areas between 3500 and 5500 feet, often along ridges and steep slopes with southeast or south exposures. As with the other oak ecozones in the mid elevations, the high elevation red oak ecozone once was dominated by American chestnut. Red oak, white oak, and other

northern hardwood species now make up the overstory. Subtypes of this ecozone vary along gradients of soil acidity and exposure to wind and ice that can lead to stunting. On acid soils, shrub layers predominate, including rhododendron species, blueberries, mountain laurel, and deciduous azaleas. In more rich sites, herbaceous layers may include black cohosh, bloodroot, wood-nettle, and Pennsylvania sedge. Disturbances here include high winds, ice storms, and occasional fire.

The northern hardwood ecozone covers 5% of the forest and lies above 4000 feet of elevation. Moisture is not limiting and subtypes include those on acidic and rich soils as well as more or less sheltered topographic exposures. Yellow birch, sugar maple, beech, and yellow buckeye are part of the overstory, with hobblebush, red elderberry, and rhododendron species creating shrub layers on acidic sites. In rich sites, diverse herb layers can include ramps, blue cohosh, yellow cohosh, and Carolina spring-beauty. Many bryophytes additionally fill more mesic sites. This ecozone often has a closed canopy and is driven by small scale disturbances of wind, ice, and hoar frost with very occasional fires.

The highest elevations of the Nantahala and Pisgah are home to the spruce-fir ecozone, which cover 2% of the forest. This ecozone covers all exposures and topographic positions from 5200 feet to the tallest peaks of the southern Appalachians over 6,000 feet. Abundant moisture if available through fog and rainfall and soils vary from shallow and rocky to deeper with well-developed organic layers. Fraser fir and red spruce dominate this ecozone, with additions of American ash, yellow birch, and fire cherry. Fraser fir dominates at the highest elevations. Shrub layers can at times be thick with various rhododendron species, and herbaceous layers exist where shrubs are less

dense. Throughout, the ecozone has large bryophyte diversity. Cold temperatures and wind can lead to stunting, and high winds that exceed 100mph, hoar frost, and rime ice are primary disturbances.

Other Associations

The Nantahala and Pisgah are also home to many rare habitats and vegetation communities, and I will note just a few here. Southern Appalachian balds are a prominent example and come in both grassy and heath types. Grassy balds occur at high elevations above 5000 feet where there are moist soils and may be dominated by grasses, sedges, or green alder and are home to many rare species, including federally listed spreading avens and Roan mountain bluet. Grassy balds are not parallel to alpine areas and could support woody plants and are thus dependent on disturbances such as grazing and fire. There are multiple lines of thought concerning the initiation and maintenance of grassy balds historically. Heath balds are similarly found at high elevations and are covered by dense shrub layers of rhododendron species and are generally less susceptible to encroachment by trees.

Another rare habitat represented in the Nantahala and Pisgah is the serpentine barrens, which are found where parent rock of soil is dominated by serpentinized dunite and olivine, creating local edaphic conditions favorable for partially open woodlands that include patches of forest and grasses and prairie vegetation. Fire is also a significant part of maintaining the patchwork and open structure. Southern Appalachian bogs also present a forest type contained by local edaphic factors characterized by high moisture from

groundwater and low pH and nutrient content. Multiple subtypes exist at various elevations and are home to many rare species.

Limitations and Uses

The ecozones help to describe some of the diversity of the Nantahala and Pisgah. Further, vegetation that does not match the composition and structure that might be expected within ecozone models often points in part to legacies of mass clearcutting, fire suppression, introduced diseases and nonnative plants, and other events impacting the landscape since colonial contact. Indeed, as spoken of in planning meetings, ecozones were interpreted by many planning participants as a way to provide an objective understanding of what the landscape ought to look like in terms of ecological integrity and restoration. However, such interpretations were continually confronted by the much more complex and dynamic social-ecological landscape.

Rather than providing resolution, ecozones were part of many of the controversies at the center of the plan revision. For example, what did ecological integrity or restoration mean in the context of continual and often irreversible change, such as oak ecosystems in the absence of American chestnut and indigenous fire practices and in the presence of mesophying species assemblages? And, what mosaic of forest communities and seral stages should be the goal given broader landscapes and multiple forest uses, and what management practices might achieve those goals? And, what sorts of management should be prioritized given ongoing threats and increasing needs? Forest Service employees and planning participants drew on scientific information and models, histories, and local

knowledge to answer these questions, including ecozone models, yet the landscape resisted any teleological purpose or essence to definitively guide management.

Forest Planning

Social-ecological complexity and change, layered Forest Service mandates and processes, and diverse forest perspectives, values, and interests met in the forest planning process to produce contention. The revision of the Nantahala and Pisgah land management plan began in 2012 and would guide forest management for at least the next fifteen years. The forest plan revision was thus understood as a critical moment to influence forest management and became a site of contention and argumentation in meetings, media, and public comments. At issue within the plan revision process was how to balance the Forest Service's multiple use mandate and the accumulation of priorities over its various phases of management. People throughout the region relied upon or otherwise valued the 1.1 million acres of national forest for forest products and related jobs, wild foods and medicines, recreation, cultural heritage and identity, water, conservation of biodiversity, livelihoods based on tourism, and wilderness experiences.

The planning process, which has not yet completed at the time of writing, has included years of meetings, analyses, public comments, and periods of more or less active antagonism among participants. Delays in the process have occurred due to government shutdowns, responses to fire and hurricanes, and spikes in contention and public comments that convinced planners to "slow down" and be responsive to the public. Within this context, members of the Nantahala-Pisgah Forest Partnership, Fish and Wildlife Conservation Council, and the Stakeholders Forum for the Nantahala and Pisgah

Plan Revision have been deeply involved, contributing to collaborative efforts as well as to controversy. In the following section, I provide an initial analysis of the emergent conflict and set the stage for the subsequent chapters.

Emerging Conflict

Participants in the planning process diverged in terms of their values, interests, and identities as well as their understandings of and relationships with the Nantahala and Pisgah. Conflict over the plan revision occurred in public meetings put on by the Forest Service, in opinion articles and press releases, in rallies and protests, and in over 16,000 comments submitted to the Forest Service by people from around the region and the nation. In addition to usual requirements for public participation in planning, the plan revision occurred under the auspices of the new 2012 Planning Rule, which replaced the 1982 Planning Rule. Among other changes, the new rule emphasized the importance of collaboration, and at least three groups came to call themselves collaboratives seeking to provide comments and influence the new forest plan. The following chapters will delve more deeply into the nature of these collaborative efforts and the specific dynamics of conflict and collaboration that played out within and among them. To set the stage, here I present the broad poles of the conflict that emerged around the forest plan revision based on an analysis of the narratives of those participating in these efforts.

The data used for this analysis included transcribed interviews, fieldnotes of meetings and forest activities, gathered media, and meeting documentation (described above in the methods section). All materials were organized by individual and interests in MaxQDA and I used narrative coding to identify characters, actions, and plotlines.

Related narratives were consolidated, resulting in five primary storylines describing forests facing different threats and with distinct needs in the forest plan. In the following section, I summarize predominate narratives into core themes: the "depleted forest", the "vulnerable forest", the "underutilized forest", the "scenic forest", and the "community forest". While these five narratives do not represent all the nuanced and hybrid ways that participants thought about or related to the forest, they help to outline the broad contours of conflict.

Depleted Forest

For many participants who identified as hunters or wildlife advocates, the forest was depleted – two decades of little active management, especially timber harvest, had led to lack of early successional habitat (ESH), also referred to as young forest habitat. Less ESH meant a loss of what made for a vibrant, healthy forest, especially specific game and non-game species such as deer, turkey, grouse, golden-winged warbler, and others. Loss of game species meant the loss of opportunities to reproduce hunting practices that connected individuals to the forest, provided food, funded conservation work, created a sense of place, and reaffirmed identity and community ties. The truth of this depletion was understood as obvious through scientific information, reports, and maps. For example, depletion was made clear in graphs of falling numbers of some wildlife species that tracked the decrease in active forest management. Analysis of bird diversity articulated the need for a more balanced forest structure, including young, middle, and old forest in open and closed canopy conditions. The spatial scale for considering the forest was generally local and within the boundaries of forest service

ownership. Habitat and diverse forest structure were needed within the boundaries of the national forest – adjacent land within the region could not provide the same quality of habitat needed nor provide access to local people.

Depletion was also experienced in the practice of forest-related activities. For example, a grouse hunter with their bird dog and shotgun drove gravel roads and pointed out at each curve where the forest held food or cover for grouse and where it did not, remarking on areas of growing young forest that had aged out of usefulness for grouse. The hunt, as all others before, was faithfully recorded with information such as weather and number of grouse flushed in a book that showed decline. Another hunter called in turkeys in state game lands with woodlands and openings where sunlight reached the ground to support foodplants for wildlife, specifically avoiding the national forest with a largely closed canopy that blocked sunlight and was relatively barren.

A primary threat to the Nantahala and Pisgah was thus the unmanaged growth of trees – constant growth year after year soon displaced ESH and blocked light from hitting the ground for smaller plants for wildlife food and cover. Natural disturbances such as wildfire, windthrow, and ice, could be part of maintaining balanced age classes in the forest but failed to keep up with tree growth and did not necessarily create the sorts of habitats needed, where they were needed. To create a structurally balanced forest, human disturbances such as prescribed fire and especially timber harvested were required, which could in turn be threatened by environmentalist pushback on proposed timber harvests along with constraints within the Forest Service, both processual and budgetary.

Timber harvest and similar projects were connected to the history of the forest, which was narrated as one of continuous human management. One leader who tied his

personal family history to Transylvania County and the Pisgah Ranger District of the Nantahala and Pisgah presented detailed accounts of the area's history as one managed by humans for wildlife: Indigenous management practices included fire management and hunting; the Pisgah Ranger district specifically includes the Cradle of Forestry, the birthplace of scientific forest management in the United States (seeding both future federal land management practices in a professional Forest Service and the land base for future national forest land); and the Pisgah was a refuge for decimated populations of white-tailed deer after the pressures of market hunting and a critical source for restoring populations throughout the region in concert with conservation funds from hunters under the Pittman-Robertson Act. These histories were juxtaposed with more recent histories of lack of management over the past two decades and personal narratives of time spent in the forest and specific places that used to hold game species but no longer did so because of ongoing neglect.

Vulnerable Forest

In contrast to depletion, many participants involved with environmentally focused organizations or identified as environmentalists emphasized the forest as filled with treasures of biodiversity and unfragmented forest, though these treasures were eroded and vulnerable. There was both lack of needed work by the Forest Service, such as on issues of road maintenance and ecological restoration, and the wrong work, such as proposed and implemented timber harvests that potentially degraded ecologically important areas. The vulnerability of the forest was understood as obvious in lists of species of conservation concern, tables showing small percentages of old growth stands remaining,

and maps of rare ecological communities that could be degraded by potential timber harvests. These ecologically important areas were characterized as islands fragmented throughout a national forest that itself was fragmented across otherwise deteriorated local and regional landscapes. The Nantahala and Pisgah were highlighted as critical refuges of biodiversity at regional, national, and even global scales. Rather than a need for more ESH and disturbance, which some might argue was overrepresented outside of national forest boundaries, the vulnerable forest needed more interior and old growth forest that were rare on the larger landscape.

The vulnerable forest was further understood and experienced in activities such as "bioblitzes" in which a conservation organization invited the public to join biologists to tally the species diversity of an area, highlighting the biological importance of the national forest as a refuge. The vulnerability of these special places was experienced directly in fieldtrips to old growth stands and other areas with ecological distinctions that had been proposed by the Forest Service for timber harvest projects. Groups hiked out into the woods to help survey proposed project areas and identify if there were old growth trees and characteristics, with one leader of an expedition repeating about the Forest Service "they don't know what they have out here!" Experience in the forest was matched by experience at public meetings, rallies, and commenting processes in which individuals saw Forest Service employees as resistant to changing projects to protect such areas.

For the vulnerable forest, tree growth and the development of natural disturbance regimes were part of mending damage to a forest that had little old growth. It was human disturbances from poorly planned Forest Service projects and the priorities of individual

Forest Service decision makers, guided by an inadequate forest plan and incentives that promoted timber harvest, that could endanger the rare plant and animal communities, old growth, and wild places prized in the vulnerable forest. Such projects could degrade existing values and introduce additional vulnerability in the form of exposure to erosion, additional roads that fragmented forests and may not be maintained over time, or introduction of nonnative invasive species. Environmental pushback on timber harvest projects was required to defend the vulnerable forest.

Two histories characterized the vulnerable forest – one was a pre-European settlement history of a natural range of variation and the other a history of destruction and defense over the last century and a half. The timeless history of natural variation with little human influence was a touchpoint for what the landscape ought to be, and was enacted through citation of scientific articles, requirements of forest planning, and pointing to what should or should not be in a certain area if natural processes had not been disrupted by clear-cutting and other human interference. This long history was juxtaposed with more recent histories of destruction, defense, and restoration relative to the natural range of variation which maintained unique habitats and related species. Rather than narrating the birth of scientific forest management, those enacting the vulnerable forest looked to the Wilderness Act and other legislation and administrative changes that pushed towards greater protection of land and species. Local movements that occurred in western North Carolina were also prominent in this history, such as community pushback against clear cutting in the 1980s and 1990s that led to a more protective amended plan in 1994, though threats had continued in the form of ill-conceived active management projects.

Underutilized Forest

Those narrating the underutilized forest largely came from the forest products industry and supporters of that industry. Rather than a depleted or vulnerable forest, these actors depicted a forest filled with renewable resources that could be sustainably harvested but were currently being underutilized or even wasted. Mirroring the depletion narrative, underutilization was based in lack of active management that could be part of a healthy forest and contribute to Forest Service capacity and local economies. Silvicultural science demonstrated underutilization through how the forest was growing much more fiber each year than taken off in harvests. Tables told the story of an aging forest passing its peak and on a trajectory towards old growth and mostly in a closed canopy condition. Timber projects could create more diverse forest structure and set of age classes as well as provide jobs and renewable resources in the form of high-quality hardwoods as well as pulp logged by local teams and brought to local mills. And, with so many acres aging, many saw little conflict with those prioritizing old growth forest.

In addition to silvicultural science and tables, the underutilized forest was evident in ridge after ridge of mature, closed-canopy forest. While many admitted that a new cut "looked like hell," they pointed to quick growth after harvest that hid evidence of disturbance and which was part of a cycle of sustainable use. Underutilization was further demonstrated in displays of dozens of notices for local sawmills closing, communicating the economic and livelihood toll of limited timber harvests. Indeed, these closings depicted a need for urgency because once mills and logging operators closed down, they could not simply be turned back on, and lost capacity during these years would mean a

loss in heritage and identity and could inhibit needed work in the forest into the future. The underutilized forest was under threat from constraints on the Forest Service to plan and carry out projects that led to low and inconsistent supplies of forest products, public opinion against timber harvest, and a dwindling timber base.

The underutilized forest narrative's history included recognition that the past century had seen periods of overharvest but noted that "no one is trying to get back there," rather emphasizing the development of silvicultural knowledge and techniques for responsible harvest, such as new skylining operations, and institutional changes such as systems of certifying sustainably harvested forest products. As with the depleted forest, the underutilized forest's history also emphasized the history of the Forest Service and national forests as part of the U.S. Department of Agriculture, highlighting the distinction with national parks, such as the neighboring Great Smoky Mountain National Park. The Forest Service and national forests were meant for the stewardship and use of forest resources.

In addition to scientific and technological histories, actors depicted the importance of local knowledge about the forest and its resources as part of stewarding renewable resources. Timber and forest products were narrated as part of the identity of the region and a critical part of the economy, creating good jobs and part of primary production whose economic benefits spiraled out into the broader community. The past two decades moved too far towards protection, threatening the continuation of forest products livelihoods and economies that required access to both private and public lands in the region. Public lands were particularly important as private lands were developed and shrank the timber base of the region as a whole.

Scenic Forest

Narratives of the scenic forest were primarily told by those involved with tourism and non-consumptive recreation activities, such as hiking, mountain biking, horseback riding, paddling, and climbing. Many of these narrators were associated with relatively recent migrants and visitors to Asheville and other hubs of recreation in the Pisgah National Forest. The condition of the forest itself in this narrative was understood as relatively good – the Nantahala and Pisgah contained beautiful mountain forests that provided settings for front country and back country experiences. While there was considerable variation, it was admitted that many recreationists and visitors saw the forest as timeless and largely unvarying and were not attuned to differences articulated in the depleted, vulnerable, or underutilized forests.

Rather than issues with the condition of the forest itself, what was emphasized in this narrative was access to the forest and the lack of or poor condition of infrastructure for access to recreation activities. Access issues included trails, parking, roads, camping sites, and other needs. The Nantahala and Pisgah represented the largest resource of public lands for recreation activities and experiences that were otherwise rare in the region. Recreation and tourism was extensive and its continued growth was a key to the economic future of western North Carolina as a destination for amenity migration, outdoor gear manufacturing, brewery tourism, and other draws. Recreation access and infrastructure was not keeping up with demand, specifically in the Pisgah National Forest, and recreation investments lagged in the Nantahala National Forest. This narrative

highlighted the Nantahala and Pisgah as *national* forests that ought to be accessible and used by local, regional, and national publics.

Evidence of the needs of the scenic forest were found in records of Forest Service maintenance backlogs and numbers depicting the increase of recreation uses without similar increase in availability of outlets for recreation. The primary way these needs were made real were through direct experience in the forest while recreating and the exchange of those experiences. Individuals spoke of crowds in parking lots and on trails, of conflict among different user groups seeking to use the same trails (especially hikers, bikers, and equestrians), the poor condition of trails, and the lack of official trails to key sites. Issues of trail conditions were keenly understood by the large community of volunteer trail maintainers. There was need to streamline and standardize bureaucracies for trail volunteers and those seeking to provide guiding and other services on little used parts of the national forest.

Threats to the scenic forest were said to include the lack of Forest Service capacity and focus on recreation. Many understood the 1994 forest plan and the planning process itself as not including enough emphasis on recreation issues. To some extent, both environmental protection and timber harvest could threaten recreation in specific places, such as through closures due to ill-maintained and unofficial trails that impacted threatened species or the scenic impacts of timber harvests. Uncertainty around what might be closed or changed and the potential for loss of access for recreation uses at a time when more access was needed presented a future threat of crisis of a forest being "loved to death." At the same time, active management could provide the context for

creating additional trails, and increased capacity could ensure trails were built and maintained to lessen impact on ecological priorities.

Community Forest

Finally, there were those who narrated the Nantahala and Pisgah as a community forest, often identifying as generational settler families of more rural areas and counties, often in the more western Nantahala National Forest most distant from Asheville and other recreation and amenity migration hubs. Many of those identifying as such shared some aspects of the above forest narratives, and specifically the depleted and underutilized forest, but what was emphasized was not the current condition of the forest but rather issues of access and autonomy. These issues were directly experienced as rural residents were faced by gated roads that used to be open or for which keys could have been obtained from the local district rangers. Gated roads blocked access to special places for cultural and community activities, and many aging locals could no longer make the journey on foot. Special local places included areas for harvesting non-timber forest products such as berries, ramps, and understory herbs for personal consumption or at times for sale.

Unlike the scenic forest narrative that emphasized the national constituency for the Nantahala and Pisgah, the community forest narrative emphasized counties and local people. The forest should support community subsistence and continuation through nontimber forest products, timber, and cultural heritage. It was said that mountain people knew the forest better than anyone and should have more say over management, citing a heritage of living in and stewarding the land and relying on it for subsistence and

livelihood. Local knowledge and reliance were contrasted with a Forest Service and federal government generally that did not know the landscape, often blundered in its management, and failed to keep promises or support local people. Indeed, some did not differentiate the Forest Service from other agencies active in the region, some denied the right of the federal government to own the land and desired county-level management (with echoes of and relationships with county supremacy movements in the American West), and others spoke of how the answer from the Forest Service was always "no" when it came to community priorities. Many had little faith that they would be heard in the forest planning process or that meaningful change would occur.

Threats to the community forest ideal thus included the Forest Service but also other potential "outsiders" or newcomers, such as environmental activists. While environmental and community alliances have occurred (Newfont 2012), a dominant thread of the community forest narrative during the 2012 planning process was the potential for urban environmentalist outsiders to shape management of local forests, ignoring local needs and seeking to shape forest management without the knowledge of those living there. This was primarily seen in the case of timber, which many narrated as part of the identity and economy of rural counties and as a way to solve current access issues – timber projects could be part of creating and maintaining road access in addition to providing good jobs, as long as timber sales went to local loggers and mills rather than big outside companies. Environmental pushback against timber projects was understood as often out of touch with local realities. While clear cutting may have been a problem in the past, many aligned with the community forest narrative saw a need for more cutting and were against increasing restrictions on potential timber projects, and many counties

passed anti-wilderness resolutions to articulate opposition to what were considered environmental constraints on potential management.

Other Forest Narratives

The five forest narratives described above do not necessarily represent the full set of views of any one individual. No individual conformed to or was limited to these narratives, and individual narratives were nuanced with additions, subtractions, and hybridizations of the above. However, these provide a coarse understanding of the primary poles of conversation in the forest planning process and the ways in which individuals' narratives were rooted in lived experience, scientific and local knowledge, and community histories, cultures, and worldviews. Additional forest narratives were told in the Forest Service and other meetings I attended, and not all possible perspectives were voiced in these spaces. Indeed, a critique and challenge for forest planning is inequality of access to meetings and other forms of participation. Ability to participate varies with geographies, constraints of livelihoods and technology, languages, access to information, and comfort with official paths of involvement.

For example, those active in forest planning meetings and thus the conflict and collaboration at the center of this study were largely white and native English speakers. Excluded from this picture are significant Black and Latinx populations in the region. Further, while there was participation of members of the Eastern Band of Cherokee Indians in public Forest Service and collaborative meetings, the primary mode of tribal engagement with forest planning was through direct government to government contact. An account of the varied histories, views, and relationships of Native American people

with the lands managed as Nantahala and Pisgah National Forests requires its own detailed study and, for the reasons given above, was largely invisible within the conflict and collaboration that played out in meetings and media. These issues are addressed partially in chapters 2 and 3 and the ways collaborative initiatives are shaped by specific definitions of what collaboration ought to be and specific ways of framing problems with and solutions for forest management.

Friction and Alignments Among Forests

Contention in the forest planning process occurred among individuals with varying definitions and understandings of the forest and its condition, history, purpose, and context. All saw the current condition of the forest and its management as flawed in some way, but what was wrong and why varied considerably. The truth of these needs was clear to individuals, whether from science, history, or personal experiences in the forest which demonstrated how far the forest and current management of it strayed from what ought to be. This led to friction as individuals met in meetings and engaged in broader discourse in media and public comments. Friction took the form of competing interests and values as well as in the differing ways of defining and conceiving of what the forest was.

Each idealized forest was characterized by distinct social and ecological relationships with distinct needs and threats. For example, each forest demanded a specific set of responses and priorities in a new forest plan to assure needs were met. The "depleted forest" was in need of swift action to support active management to balance age classes and structural conditions within the national forest, the "vulnerable forest"

further assurances to protect ecologically important areas, and the "underutilized forest" adequate acreage open for harvest and consistent quality timber projects to support a struggling industry central to the identity of the region and to maintain forest health. The "scenic forest" was said to require more focus and inputs on recreation issues to keep up with growing use and visitation, while the "community forest" was said to require more focus on the needs of local rural communities.

Who and what were threats also varied according to the specific narrative. The Forest Service was largely seen as an ally hampered by bureaucratic processes and environmental pushback in the depleted and underutilized forests and viewed with distrust in the vulnerable and community forest, though for different reasons. Distrust in the vulnerable forest was based on narratives of Forest Service incentives to prioritize timber over environmental protection and on the agency's lack of recognition of local needs in the community forest. Environmental organizations were understood as a potential threat to depleted, underutilized, and community forests and as at times more or less close allies with the scenic forest. Amenity migrants were said to fragment forested landscapes around the Nantahala and Pisgah and to place more pressure on remaining forested lands in the vulnerable and underutilized forest narratives by removing parts of the forest base and adding more people to roads, trails, and places of interest that, in some areas, were already failing to meet demands of use and causing resource damage. At the same time, passive recreation and tourism was understood as in partial alignment with the vulnerable forest, providing economic underpinnings and public support for protecting special places. Amenity migrants were said to threaten the depleted forest not through development, given the focus of the depleted forest on national forest lands, but rather

through cultural and political changes that might limit future hunting through laws supported by those intolerant of hunting or through pushback against timber harvests, the latter of which was also a concern articulated in connection to the underutilized forest narrative. That cultural shift was seen as aligned with, and propagated by, environmental groups.

For some individuals, long-time rural residents knew the land better than more recent migrants and should be able to determine aspects of national forest management within their county borders, including through representation by their county commissioners. Many environmental advocates in rural counties had experienced antipathy from local county representatives and twelve of the eighteen counties with parts of the Nantahala and Pisgah inside their boundaries passed anti-wilderness designation resolutions, a keystone concern for those enacting the vulnerable forest. Antipathy was based on understandings of wilderness and environmental advocates as locking out local access and use of the land and stunting timber harvest that could aid local economies and fund maintenance of Forest Service roads.

At the same time that contention flared, there were those seeking to find alignment at the intersections of these forests. For example, restoration was understood as a way for active management to achieve the goals of many forests, and many had visions of collaborations that could increase capacity to meet many goals. How these controversies and collaborative efforts played out is the topic of the next three chapters in which I address questions of what collaboration is and how it is defined in context, how individuals work to forge collaboration amid contention, and how social and ecological uncertainties can prolong contention despite overlapping visions.

References

Abrams, Jesse. 2019. "The emergence of network governance in US National Forest Administration: Causal factors and propositions for future research." *Forest Policy and Economics* 106:101977.

Alexander, Heather D, Courtney Siegert, J Stephen Brewer, Jesse Kreye, Marcus A Lashley, Jennifer K McDaniel, Alison K Paulson, Heidi J Renninger, and J Morgan Varner. 2021. "Mesophication of Oak Landscapes: Evidence, Knowledge Gaps, and Future Research." *BioScience* 71 (5):531-542.

Ansell, Chris, and Alison Gash. 2008. "Collaborative governance in theory and practice." *Journal of public administration research and theory* 18 (4):543-571.

Bolstad, Paul V, Katherine J Elliott, and Chelcy F Miniat. 2018. "Forests, shrubs, and terrain: top-down and bottom-up controls on forest structure." *Ecosphere* 9 (4):e02185.

Bouwen, Rene, and Tharsi Taillieu. 2004. "Multi-party collaboration as social learning for interdependence: developing relational knowing for sustainable natural resource management." *Journal of Community & Applied Social Psychology* 14 (3):137-153.

Braun, E Lucy. 1951. *Deciduous forests of eastern North America*. Vol. 71: LWW.

Brosius, Peter J, Anna Lowenhaupt Tsing, and Charles Zerner. 2005. *Communities and conservation: histories and politics of community-based natural resource management*. Rowman Altamira.

Carpenter, Dana O, Melanie K Taylor, Mac A Callaham, J Kevin Hiers, E Louise Loudermilk, Joseph J O'Brien, and Nina Wurzburger. 2021. "Benefit or liability?

The ectomycorrhizal association may undermine tree adaptations to fire after long-term fire exclusion." *Ecosystems* 24 (5):1059-1074.

Clinton, Barton D, and Corey R Baker. 2000. "Catastrophic windthrow in the southern Appalachians: characteristics of pits and mounds and initial vegetation responses." *Forest ecology and management* 126 (1):51-60.

Conley, Alexander, and Margaret A Moote. 2003. "Evaluating collaborative natural resourcemanagement." *Society &Natural Resources* 16 (5):371-386.

Cooke, Bill, and Uma Kothari. 2001. *Participation : the new tyranny?* London ; New York: Zed Books.

Cozzo, David N. 2004. "Ethnobotanical classification system and medical ethnobotany of the Eastern Band of the Cherokee Indians." University of Georgia Athens, Georgia.

Daniels, Steven E, Gregg B Walker, and Jens Emborg. 2012. "The unifying negotiation framework: A model of policy discourse." *Conflict Resolution Quarterly* 30 (1):3-31.

Davis, Donald Edward. 2011. *Where there are mountains: an environmental history of the southern Appalachians*: University of Georgia Press.

Delcourt, Hazel R, and Paul A Delcourt. 1997. "Pre-Columbian Native American use of fire on southern Appalachian landscapes." *Conservation Biology* 11 (4):1010-1014.

Delcourt, Paul A., and Hazel R. Delcourt. 1998. "The Influence of Prehistoric Human-Set Fires on Oak-Chestnut Forests in the Southern Appalachians." *Castanea* 63 (3):337-345.

Dressel, Sabrina, Göran Ericsson, M Johansson, C Kalén, SE Pfeffer, and Camilla Sandström. 2020. "Evaluating the outcomes of collaborative wildlife governance: The role of social-ecological system context and collaboration dynamics." *Land Use Policy* 99:105028.

Elliott, Katherine J, and Chelcy F Miniat. 2018. "Herbaceous-layer diversity and tree seedling recruitment are enhanced following Rhododendron maximum shrub removal." *Forest Ecology and Management* 430:403-412.

Elliott, Katherine J, Chelcy F Miniat, and Andrea S Medenblik. 2020. "The long-term case for partial-cutting over clear-cutting in the southern Appalachians USA." *New Forests* 51 (2):273-295.

Elliott, Katherine J, and Wayne T Swank. 2008. "Long-term changes in forest composition and diversity following early logging (1919–1923) and the decline of American chestnut (Castanea dentata)." *Plant ecology* 197 (2):155-172.

Emerson, Kirk, and Tina Nabatchi. 2015. *Collaborative governance regimes*: Georgetown University Press.

Facelli, Evelina, Sally E Smith, José M Facelli, Helle M Christophersen, and F Andrew Smith. 2010. "Underground friends or enemies: model plants help to unravel direct and indirect effects of arbuscular mycorrhizal fungi on plant competition." *New Phytologist* 185 (4):1050-1061.

Faith, J Tyler. 2011. "Late Pleistocene climate change, nutrient cycling, and the megafaunal extinctions in North America." *Quaternary Science Reviews* 30 (13-14):1675-1680.

Farrell, Justin. 2015. *The Battle for Yellowstone: Morality and the Sacred Roots of Environmental Conflict*: Princeton University Press.

Ferguson, Ian, and Cherukat Chandrasekharan. 2005. "Paths and pitfalls of decentralization for sustainable forest management: experiences of the Asia-Pacific region." In *The Politics of Decentralization*, edited by C.J.P. Colfer and D. Capistrano, 63-85. London: Earthscan.

Fischer, Frank. 2006. "Participatory governance as deliberative empowerment the cultural politics of discursive space." *The American review of public administration* 36 (1):19-40.

Gragson, Ted L, and Paul V Bolstad. 2006. "Land use legacies and the future of southern Appalachia." *Society and Natural Resources* 19 (2):175-190.

Greenberg, Cathryn H, and Beverly S Collins. 2015. *Natural Disturbances and Historic Range of Variation*: Springer.

Gustafson, Seth, Nik Heynen, Jennifer L Rice, Ted Gragson, J Marshall Shepherd, and Christopher Strother. 2014. "Megapolitan political ecology and urban metabolism in southern Appalachia." *The Professional Geographer* 66 (4):664-675.

Hilgers, Dennis, and Christoph Ihl. 2010. "Citizensourcing: Applying the concept of open innovation to the public sector." International Journal of Public Participation 4 (1).

Innes, Judith E, and David E Booher. 1999. "Consensus building and complex adaptive systems: A framework for evaluating collaborative planning." *Journal of the American planning association* 65 (4):412-423.

Innes, Judith E, and David E Booher. 2016. "Collaborative rationality as a strategy for working with wicked problems." *Landscape and urban planning* 154:8-10.

Jenkins, Clinton N, Kyle S Van Houtan, Stuart L Pimm, and Joseph O Sexton. 2015. "US protected lands mismatch biodiversity priorities." *Proceedings of the National Academy of Sciences*:201418034.

Jenkins, Michael A. 2007. "Vegetation communities of Great Smoky Mountains national park." *Southeastern Naturalist* 6 (sp2):35-56.

Johnson, Christopher, and David Govatski. 2013. *Forests for the People: The Story of America's Eastern National Forests*: Island Press.

Jolley, Harley E. 1998. "The Cradle of Forestry." *FOREST* 1:19.

Kelly, Josh. 2013. "An Assessment of the Ecosystems of Nantahala-Pisgah National Forest & Surrounding Lands."

Kirk, Ryan W, Paul V Bolstad, and Steven M Manson. 2012. "Spatio-temporal trend analysis of long-term development patterns (1900–2030) in a Southern Appalachian County." *Landscape and Urban Planning* 104 (1):47-58.

Lafon, Charles W, Adam T Naito, Henri D Grissino-Mayer, Sally P Horn, and Thomas A Waldrop. 2017. "Fire history of the Appalachian region: a review and synthesis." *Gen. Tech. Rep. SRS-219. Asheville, NC: US Department of Agriculture, Forest Service, Southern Research Station.* 219:1-97.

Leach, Melissa, Ian Scoones, and Andy Stirling. 2010. *Dynamic sustainabilities: technology, environment, social justice*: Earthscan.

Lejano, Raul, Mrill Ingram, and Helen Ingram. 2013. *The power of narrative in environmental networks*: MIT Press.

MacCleery, Doug. 2008. "Re-inventing the United States Forest Service: evolution from custodial management, to production forestry, to ecosystem management." *Reinventing forestry agencies: experiences of institutional restructuring in Asia and the Pacific. RAP Publication (FAO), Bangkok, Thailand*:45-77.

Maier, Carolin, and Jesse B Abrams. 2018. "Navigating social forestry–A street-level perspective on National Forest management in the US Pacific Northwest." *Land Use Policy* 70:432-441.

Mansfield, Becky, Christine Biermann, Kendra McSweeney, Justine Law, Caleb Gallemore, Leslie Horner, and Darla K Munroe. 2015. "Environmental politics after nature: Conflicting socioecological futures." *Annals of the Association of American Geographers* 105 (2):284-293.

McCarthy, James. 2005. "Devolution in the Woods: Community Forestry as Hybrid Neoliberalism." *Environment and Planning A: Economy and Space* 37 (6):995-1014. doi: 10.1068/a36266.

McElwee, Pamela D. 2016. *Forests are gold: Trees, people, and environmental rule in Vietnam*: University of Washington Press.

Miller, Char, and James G Lewis. 2018. "Lands Worth Saving: The Weeks Act of 1911, the National Forests, and the Enduring Value of Public Investment."

Monroe, Ashley S, and William H Butler. 2016. "Responding to a policy mandate to collaborate: structuring collaboration in the collaborative forest landscape restoration program." *Journal of Environmental Planning and Management* 59 (6):1054-1072.

Murray Li, Tania. 2007. "Practices of assemblage and community forest management." *Economy and society* 36 (2):263-293.

Newfont, Kathryn. 2012. *Blue Ridge commons : environmental activism and forest history in western North Carolina*, *Environmental history and the American South*. Athens: University of Georgia Press.

Norman Jr, L, and Kurt Fesenmeyer. 2012. "Fire history in a southern Appalachian deciduous forest." In: Dey, Daniel C.; Stambaugh, Michael C.; Clark, Stacy L.; Schweitzer, Callie J., eds. Proceedings of the 4th fire in eastern oak forests conference; 2011 May 17-19; Springfield, MO. Gen. Tech. Rep. NRS-P-102. Newtown Square, PA: US Department of Agriculture, Forest Service, Northern Research Station: 3-11.

Nowacki, Gregory J, and Marc D Abrams. 2008. "The demise of fire and "mesophication" of forests in the eastern United States." *BioScience* 58 (2):123-138.

Ponder, Marissa. 2014. Restoration Needs Analysis in Nantahala and Pisgah National Forests: An assessment of potential active restoration in departed forest ecosystems.

Runkle, James R, and Todd C Yetter. 1987. "Treefalls revisited: gap dynamics in the southern Appalachians." *Ecology* 68 (2):417-424.

Rutkow, Eric. 2012. *American canopy: Trees, forests, and the making of a nation*: Simon and Schuster.

Schwartzman, Helen B. 1989. *The Meeting: gatherings in organizations and communities.* Springer, Boston, MA.

Scott, James C. 1998. *Seeing like a state: How certain schemes to improve the human condition have failed*. Yale University Press.

Sharma, Akanksha, Navis, Corrie J., and Alexandra N. Hofner. 2021. Historical Ecology of Cherokee Socio-Ecological Relationships in the Southeastern United States. Report to the Natural Resource Department of the Eastern Band of Cherokee Indians.

Silver, Timothy. 2003. *Mount Mitchell and the Black Mountains: an environmental history of the highest peaks in eastern America*: Univ of North Carolina Press.

Simon, Steven A. 2005. *Ecological zones in the Southern Appalachians: First approximation*. Vol. 41: US Department of Agriculture, Forest Service, Southern Research Station.

Spira, Timothy P. 2011. *Wildflowers and plant communities of the southern Appalachian Mountains and Piedmont: A naturalist's guide to the Carolinas, Virginia, Tennessee, and Georgia*: Univ of North Carolina Press.

Starnes, Richard D. 2010. *Creating the land of the sky: Tourism and society in western North Carolina*: University of Alabama Press.

Strauss, Claudia. 2012. *Making sense of public opinion*. New York: Cambridge University Press.

Teale, Chelsea L, and Norton G Miller. 2012. "Mastodon herbivory in mid-latitude late-Pleistocene boreal forests of eastern North America." *Quaternary Research* 78 (1):72-81.

USFS. 1994. Land and Resource Management Plan Amendment 5. edited by Department of Agriculture. Asheville, NC: Forest Service, Southern Region.

USFS. 2012a. Forest Service Kicks Off Revision of Nantahala-Pisgah Management Plan. edited by USDA Forest Service. Asheville, N.C.

USFS. 2012b. National Forest System Land Management Planning. edited by Forest Service Department of Agriculture: Federal Register.

USFS. 2014. Nantahala and Pisgah National Forests Assessment. edited by USDA. Asheville, NC.

Vercoe, Richard A, M Welch-Devine, Dean Hardy, JA Demoss, SN Bonney, K Allen, Peter Brosius, D Charles, B Crawford, and S Heisel. 2014. "Acknowledging trade-offs and understanding complexity: Exurbanization issues in Macon County, North Carolina."

VERBI Software. MAXQDA. Berlin, Germany.

Walker, Peter A, and Patrick T Hurley. 2004. "Collaboration derailed: The politics of "community-based" resource management in Nevada County." *Society and Natural Resources* 17 (8):735-751.

West, Darrell C, Herman H Shugart, and DF Botkin. 2012. *Forest succession: concepts and application*: Springer Science & Business Media.

Winkel, Georg. 2012. "Foucault in the forests—A review of the use of 'Foucauldian'concepts in forest policy analysis." *Forest Policy and Economics* 16:81-92.

Winkel, Georg. 2014. "When the pendulum doesn't find its center: Environmental narratives, strategies, and forest policy change in the US Pacific Northwest." *Global Environmental Change* 27:84-95.

Wondolleck, Julia M. 2013. *Public lands conflict and resolution: Managing national forest disputes*: Springer Science & Business Media.

Wondolleck, Julia M, and Steven Lewis Yaffee. 2000. *Making collaboration work: Lessons from innovation in natural resource managment*: Island Press.

Yarnell, Susan L. 1998. "The southern Appalachians: a history of the landscape." *General Technical Report SRS-18*. Asheville: U.S. Department of Agriculture, Forest Service, Southern Research Station.

CHAPTER 2

CLAIMING COLLABORATION: COLLABORATIVE POLITICS AND CONTESTED GOVERNANCE OF A SOUTHERN APPALACHIAN NATIONAL FOREST

Introduction

Agencies and organizations around the world are institutionalizing collaborative approaches to environmental governance to foster more equitable, legitimate, and effective management and to fill gaps created by declining state capacity under market liberalization and structural adjustment (Ansell and Gash 2008, Cheng 2006, Maier and Abrams 2018). However, centering collaboration in formal policy and informal expectations sets up incentives for collaborative politics in which actors seek legitimacy by calling a process or outcome collaborative or contest the merits of such claims (Few 2001, Ribot 1996, Singleton 2000). Contestation over whether a process is collaborative or not is in part animated by the vagueness of the term – collaboration can be defined, enacted, and evaluated in many ways. This article examines the multiplicity of collaboration and the implications for institutionalizing collaborative governance and navigating collaborative politics.

The research presented centers on a land management plan revision for the Nantahala and Pisgah National Forests. Over the past four decades, the United States Forest Service (USFS) has moved (and been pushed) to increase inclusion of the public in forest management through participation and collaboration (Maier and Abrams 2018). The 2012 Planning Rule, which guided the Nantahala and Pisgah plan revision,

emphasized collaboration and set up the conditions for collaborative politics. Three somewhat overlapping and competing groups emerged to engage in planning and members of each claimed the label of "collaborative" and its associated legitimacy while at times discounting the claims of others. I examine how actors defined and enacted collaboration, how they claimed and contested "collaborativity" (which I define as the quality of being collaborative), and how claims of collaborativity were used to navigate the politics of the forest plan revision. My findings suggest the need to move beyond generalized concepts of collaboration to uncover the underlying ideals, interpretations, and trade-offs that emerge in specific contexts.

Institutionalizing Collaboration and Collaborative Politics

Institutionalization of collaborative environmental governance occurs through policy, influential frameworks such as community based natural resource management, and informal expectations and best management practices (Ansell and Gash 2008, Brosius, Tsing, and Zerner 2005, Chaffin et al. 2014, Cheng 2006, Conley and Moote 2003, Monroe and Butler 2016). The increasing prevalence of collaborative approaches has roots both in the critique of top-down, technocratic management and in neoliberal reforms in which state authority and capacity has eroded and been replaced by market-driven approaches and a shift to decentralized, multi-stakeholder governance and engagement of non-governmental actors (McCarthy 2005). Across varied contexts and conceptions, collaboration is characterized by sustained interaction among multiple actors (such as representatives of communities, stakeholders, government agencies, and non-governmental organizations) for information exchange, learning, and relationship-

building (Ansell and Gash 2008, Conley and Moote 2003, Gray and Wood 1991, Wondolleck and Yaffee 2000).

Collaboration is not beyond or separate from politics but is a form of politics and power-laden competition over how natural resources ought to be managed (Brisbois and de Loë 2016, Orth and Cheng 2018, Walker and Hurley 2004). Power expresses itself in collaboration in part through contestation over who and what will be accepted as collaborative. When collaboration is associated with power and legitimacy, being accepted as "collaborative" is itself powerful and actors are incentivized to call their strategies collaborative and to shape purportedly collaborative processes to work towards their interests. For example, decision maker may host a collaborative process but limit the extent to which participants may meaningfully shape the decision, a situation of containment (Few 2001, Ribot 1996). Similarly, powerful interests may "capture" a collaborative process and exert influence to ensure it meets their own goals (Singleton 2000). Participants can push against these constraints with counter-containment strategies to open the process to better reflect their interests (Few 2001). Or, those who feel left out may derail the process by contesting collaborative rhetoric from the outside (Walker and Hurley 2004).

Claims are thus central to collaborative politics, whether a powerful actor claims a process is collaborative or another seeks to undermine those claims. However, claims about collaboration and the quality of being collaborative, what I call collaborativity, are rarely centered in scholarship, which often adopts a generic definition of collaboration and focuses on ways to better enact collaboration or how it is undermined. The standards by which collaboration is approached and assessed remain largely implicit and vary

within the many fields that conduct research on environmental collaboration, such as public policy, planning, anthropology, human geography, and natural resource management (Ansell and Gash 2008). Some scholarship speaks to agency and organization perspectives that seek to better implement collaborative processes and "make collaboration work" (Wondolleck and Yaffee 2000). Other scholarship, often using critical lenses, may speak more to the perspectives of those marginalized, ignored, or "contained" in approaches labeled as collaborative (Cooke and Kothari 2001, West 2006). The goals of collaboration and frameworks for evaluation are distinct in these streams of research and reflect the elusiveness of the term and multiple bases for claims to collaborativity.

The Nantahala and Pisgah National Forests and Forest Planning

The Nantahala and Pisgah National Forests cover 1.1 million acres fragmented over 18 mountain counties in western North Carolina. The region is home to the Eastern Band of Cherokee Indians, generational European-descended residents, and relatively recent migrants part of exurbanization for mountain amenities or industries supporting those amenity-seekers (Vercoe et al. 2014). The region also attracts tourists seeking recreation and mountain views, making the Nantahala and Pisgah one of the most visited national forests in the United States (USDA 2014). The national forest is an important part of the region's economy and identity and is part of everyday livelihoods and placemaking through recreation, guiding services and tourism, gathering of non-timber forest products, timber harvest, drinking water, and cultural heritage sites (Newfont 2012). The Nantahala-Pisgah is also a biodiversity hotspot, holding many ecozones and

rare communities found in gradients of elevation, aspect, and soil types (Jenkins et al. 2015).

The land that is now the Nantahala and Pisgah National Forests is located in mountainous headwaters purchased from private landholders under the authority of the 1911 Weeks Act, which was passed to counteract flooding caused by mass clear cutting at the turn of the 20th century (Johnson and Govatski 2013). Clear cutting and following federal management, including fire suppression, contributed to creating a modern forest with a large percentage of middle-aged, closed canopy forest that does not reflect historical variation in terms of age structure or species composition (Yarnell 1998, USDA 2014). Forest Service management changed through the twentieth century in response to new policies and directives, increasing focus on managing for multiple uses and gathering public input for decisions (Johnson and Govatski 2013). At the same time, the Forest Service's timber program increased, the US environmental movement flourished, and local uses of forest lands were at times jeopardized by both, setting the stage for contention over land management in the 1980s and 90s (Newfont 2012). As occurred in national forests around the country, conflict flared in the Nantahala and Pisgah among people advocating for more protection of national forest lands they saw as being unsustainably exploited and those advocating for local and regional timber economies reliant on both public and private forest lands. After a process that included protests and litigation, the *Land and Resource Management Plan Amendment 5* was released in 1994 (USDA 1994). Over the next two decades, the amount of timber taken off the Nantahala and Pisgah dropped, due in part to the forest plan, local Forest Service capacity, and changes in the Forest Service at the national level (USDA 2014).

In 2012, the Nantahala and Pisgah announced the beginning of a land management plan revision (USDA 2012a). The plan revision occurred under the 2012 Planning Rule, which replaced the 1982 Planning Rule and included new guidance to "engage the public—including Tribes and Alaska Native Corporations, other Federal agencies, State and local governments, individuals, and public and private organizations or entities—early and throughout the planning process…using collaborative processes where feasible and appropriate" (USDA 2012b). The planning process (ongoing at the time of writing) was a site of contention, with primary nodes of friction centered on the role of active management and silviculture on national forest lands; early successional habitat for wildlife (including game species); environmental protection and congressionally designated Wilderness; and sustainable recreation in the context of increasing demand and backlogs in road and trail maintenance. The resulting plan would guide forest management for fifteen years or more, and as such was understood by many as a high-stakes moment to influence the landscape for generations to come.

Three Collaboratives

One outcome of the 2012 Planning Rule's emphasis on collaboration was that it contributed to conditions for collaborative politics. Many individuals involved with the planning process articulated belief in the power of collaboration to create win-wins for various communities, to break through paralysis in forest management caused by antagonism, and to improve forest condition. At the same time, collaboration was also understood as a route to legitimacy and influence in the planning process. This prompted many actors to engage in collaborative efforts and to claim the collaborative mantel in

part to increase their "clout" or contest the influence of others. With incentives for collaborative politics in place, (at least) three groups emerged to influence the plan: The Nantahala-Pisgah Forest Partnership (NPFP), the Fish and Wildlife Conservation Council (FWCC), and the Stakeholders Forum for the Nantahala and Pisgah Plan Revision (SHF). The groups had somewhat overlapping participants representing various interests and communities, such as the forest products industry, recreation groups, various environmental organizations, and state agencies. Approximately 40 individuals were regularly involved with one or more of these collaborative groups, and many more were indirectly or intermittently engaged.

The NPFP emerged in 2012-2013 with the beginning of the plan revision process. It had significant impetus from environmental protection organizations and recreation groups, but early meetings emphasized the need for a "big tent" and inclusion of all interests. The group expanded to include a wide range of interests, such as representatives of the forest products industry, wildlife organizations, and local government. The FWCC became active with the first Forest Service-led public plan revision meetings in 2013. The FWCC traced its roots to the 1990s as an alliance of various wildlife and hunting-focused groups and individuals. New leadership and energy came into the group with the plan revision and with hunter dissatisfaction at a lack of silvicultural management that had resulted in the loss of early successional habitat and wildlife species reliant on such habitat. Some FWCC leadership distrusted the NPFP as biased towards an environmental preservation agenda, and so the two groups retained distinct identities though shared some members.

Both the NPFP and the FWCC were called collaboratives by Forest Service leadership while some members of these efforts contested which group deserved that label. The picture was further complicated in 2015 after preliminary Forest Service ideas for the new plan sparked an uproar from multiple environmental organizations and local communities. The Forest Service responded with a "reset" and a "collaborative summit" that included leadership from the NPFP and FWCC and professional facilitation from the National Forest Foundation. These efforts eventually gave rise to what some called a "super-collaborative" and eventually became the Stakeholders Forum for the Nantahala and Pisgah Plan Revision (SHF). The SHF included some members of the NPFP and FWCC, along with a few additional individuals, representing forest products, environmental protection, wildlife, and recreation. This new group did not supplant the NPFP and FWCC but rather joined them as a third, distinct group. In addition to the NPFP, FWCC, and SHF that I focus on in this study, there was also a restoration steering committee (active primarily before planning began), a group called *I Heart Pisgah*, and a memorandum of understanding developed among mountain bikers, wilderness advocates, and others that were at times spoken of as "collaboratives" by some individuals.

Methods and Analysis

This paper is based on interviews and participant observation conducted between 2013 and 2018 as part of a larger research project centered on collaboration and conflict in the Nantahala and Pisgah plan revision process. Over this period, I made 24 short-term visits lasting 1 to 5 days each to participate in meetings, conduct interviews, and participate in forest-related activities, such as field trips and trail work. I conducted

further fieldwork for ten months in 2018. The research period encompassed a large portion of the forest planning process, the development of the three collaborative groups, and several episodes in which tension swelled around the forest planning process, manifesting in media, public events, and collaborative meetings.

I observed and took field notes from 34 meetings of the three collaborative groups and collected documents developed through these meetings, such as meeting notes, PowerPoints, agreements, press releases, and other outputs. I also collected meeting records and documentation from a further ten collaborative meetings I did not attend. I conducted semi-structured interviews centered on forest values and collaborative planning with 74 individuals participating in one or more of the collaborative efforts or otherwise involved with the plan revision. Interviewees were chosen purposively to represent the primary groups and interests active in contention and collaboration and included the key players of the three groups. Further data was garnered from media and social media featuring these collaborative groups and from comments submitted by these groups, or their members, to the Forest Service during the plan revision.

Interviews were transcribed and, along with fieldnotes and other documentation, were organized by individual and/or group in MaxQDA (MAXQDA 2018). Following Miles et al. (2014), I conducted multiple cycles of coding, starting with an initial phase of holistic coding to identify units of data that mentioned collaboration or were about or produced by any of the three collaborative groups. Using this subset of data, I conducted a cycle of coding for values, attitudes, and beliefs expressed about collaboration or the three collaborative groups as well as descriptive coding for fieldnotes and meeting notes in which the groups enacted their versions of collaboration. I then conducted a second

cycle of coding, clustering coded material and identifying recurring themes of how individuals and groups defined and enacted collaboration.

Coded segments that articulated what collaboration is or should be were often made in the context of an argument or claim about the value of collaboration or how collaborative groups or actors succeeded or failed to enact "true" collaboration. For example, an NPFP member might say that "collaboration is how you get things done" to encourage other members to continue contributing time and energy to sometimes difficult processes. Using the same subset of data described above, I conducted a cycle of coding for claims, considering segments in terms of the speaker, audience, and purpose. Claims about collaboration occurred in meetings, interviews, media, comments to the Forest Service, and other generated documents. The audiences were fellow group members, potential funders, the Forest Service, the public, and myself. In a second cycle of coding, I analyzed coded material to identify patterns of how claims about collaboration were used to navigate the politics of the forest plan revision.

Results

The analyses produced two linked sets of results. The first was a set of ideals common to individuals' definitions of collaborative processes and valid collaborative partners and how these ideals were interpreted and enacted within the NPFP, FWCC, and SHF. The second set of results built on the first and placed these ideals in the context of how they were used by individuals in claims to navigate the collaborative politics of the forest plan revision. These results are presented in the following two sections.

Collaborative Ideals, Interpretations, and Performances

Participants in the NPFP, FWCC, and SHF enacted and voiced distinct visions of collaboration. Individuals articulated what qualities constituted 1) a collaborative process or 2) a valid collaborative partner based on various ideals of what collaboration ought to be. At the same time, these ideals were acted out in how each group was structured, how meetings were conducted, and how individuals interacted.

Process Ideals

Coding for what makes for a collaborative process revealed four salient features: representation, accessibility, neutrality, and efficacy (see *Table 1*). While individuals from each group spoke broadly to these same ideals, interpretations and emphases differed. The coded segments used to produce group-level definitions and enactments of each ideal come from participant observation of meetings, official group documents, and interviews with group leaders and advocates.

The ideal of representation spoke to how groups and individuals envisioned who should "be in the room." This ideal was variously interpreted in terms of interests, "sides," local publics, and national publics. For example, members of the NPFP emphasized interests in their enactment of representation, which was reflected in their often-cited desire to have "all the interests at the table." NPFP members sought broad participation of representatives of interest-based organizations and constituencies that could speak for local, regional, and national publics. The SHF similarly focused on interests and structured collaboration around environmental conservation, wildlife, forest products, and recreation interest areas. The SHF interpretation of representation

emphasized balance among the four interest areas rather than breadth, focusing on getting different "sides" in the same room (in part a function of crossing the divide between the NPFP and FWCC). In contrast, the FWCC emphasized local publics rather than interests and leaders spoke of it as a "real grassroots organization." Representation here was enacted by group leaders bringing together residents of rural counties.

Representation was tightly linked with the ideal of accessibility, which was interpreted through time and place of meetings, openness of membership, and transparency. FWCC members spoke frequently of how their group was accessible to rural, working people. Meetings occurred in the evenings after working hours and at points during the planning process meeting locations shifted around the 18-county region to connect with local communities and hunting clubs. The NPFP had meetings during working hours located in Asheville, the urban center of the region, and members defined accessibility largely in terms of the group's open-ended membership structure, though the group also hosted some community meetings early in the process. There was no cap on additional members and there were tiers of engagement for those unable to commit to full membership. Like the NPFP, SHF meetings were often long and during work hours. Unlike the NPFP, meetings were largely located outside of Asheville and membership was purposively limited to under 30 members to balance representation of the four interest areas. With the limited membership, enactment of accessibility in the SHF was spoken of as transparency – members were expected to communicate with broader constituencies, meetings were technically open to observers (though not necessarily widely advertised), and meeting notes and products were published online.

Neutrality of process was interpreted through professional facilitation and best practices, acting as an unbiased conduit of voices and scientific information, and the nature of conveners and participating actors. Both the NPFP and SHF emphasized neutrality through professional facilitation and best practices, hiring third-party facilitators and creating documented agreements for how participants would interact with one another. The FWCC did not hire facilitation and instead emphasized its role as a conduit of information for its rural, working constituency and relied on the presumed unbiased nature of wildlife experts and science. Individuals from all groups spoke of neutrality in terms of conveners and participating actors, with comments often questioning the neutrality of other groups.

The ideal of efficacy spoke to a group's ability to do things, whether by developing "clout," making progress on difficult issues, creating products, or supporting managers. NPFP members emphasized each of these interpretations at various times. Within the SHF, discourse centered around progress on difficult issues and developing products that were valuable to the Forest Service planning team, though not all SHF members agreed that the group achieved those ideals of efficacy. FWCC members discussed efficacy as success in amplifying hunter voices and the "wildlife message" and as direct work on the landscape to support managers in the form of road and wildlife opening projects.

Table 1, Process and Actor Ideals *- what makes a valid collaborative process and actor.*

Process Ideals	***Interpretations***	***Examples***
Representation	of interests	NPFP members attempt to create a "big tent" with "all interests at the table."
	of sides	Forest Service employee emphasizes the SHF has "all the sides" in the same room.
	of local publics	FWCC member says that it is "the real grassroots" representing local, working people.
	of national publics	Forest Service employee and NPFP member emphasize that it is a *national* forest and everyone has a say.
Accessibility	through time and place	FWCC member speaks of NPFP and SHF day-long meetings - "Regular working people can't do that."
	through membership	NPFP member says "we had open membership from the beginning…we invited everybody"
	through transparency	SHF meetings were open to observers, though meetings were not publicized.
Neutrality	through facilitation and best practices	From the NPFP charter - "Facilitators will…help maintain a level playing field for all participants."
	as a conduit of voices and scientific information	FWCC member supports the science-based recommendations of the NC Wildlife Resources Commission.
	of conveners and participating actors	FWCC member's distrust of The Wilderness Society's role in instigating the NPFP.
Efficacy	through clout	NPFP member speaks of the need to "create a constituency that pushes the Forest Service."
	through progress on difficult issues	NPFP member praises the group for working through the difficult issues.

	through products	NPFP member praises the group's recommendations - "We're bringing the best ideas to the table…actual solutions."
	through supporting managers	SFNP member speaks of the group's success in providing the Forest Service with necessary information.
Actor Ideals		
Legitimacy	through interest-based constituency	Introductions at NPFP and SHF meetings based on name and organization or business to establish representation of a valid interest.
	through place	Introductions at FWCC meetings based on name and county of residence to establish place-based legitimacy.
	through scientific knowledge	FWCC member invites technical advisors and cites scientific articles.
	through advocacy of unvoiced or at-risk values	FWCC member advocates for wildlife - "Someone has to speak for the wildlife…people visit but wildlife live [in the forest] 24-7."
Respect of process and good faith	through behavior in meetings	From the NPFP charter – "When participants vote thumbs down, they will be required to explain their vote and provide an alternative…"
	through behavior outside of meetings	SHF member complaining, "they got out on the media… [it was] misleading and just riled up their base…."
	through openness to other interests or perspectives	SHF member lamenting, "we've recognized their interests, and my vision of the forest includes their values…I'm not sure they could say the same thing."

Actor Ideals

Actor ideals characterized what sorts of individuals made valid collaborative partners in the forest plan revision process. Coding revealed two primary ideals: 1) legitimacy and 2) respect of process and good faith. Legitimacy was spoken of in terms of individuals representing an interest-based constituency, having lived experience in the forest or scientific knowledge of it, or advocating for unvoiced or at-risk values. Individuals in all groups acknowledged the importance of these forms of legitimacy, though some variation of emphases remained. For example, the NPFP and SHF emphasized constituencies as the basis for status as a legitimate collaborative partner while the FWCC emphasized local familiarity. These trends were tangibly expressed in meetings: NPFP and SHF members introduced themselves via their organization (complete with paper placard indicating their organization in front of them) and FWCC members highlighted local credentials, often introducing themselves with their county of residence and a temporal qualifier, such as "lifelong resident."

Coding for respect of process and good faith encompassed the language individuals used to evaluate others as fulfilling the expectations of a good collaborator (or not). Evaluations were made about individuals' behaviors inside and outside of meetings and about perceived openness of the individual to other interests or perspectives. Discourse about behavior in meetings was most salient for the NPFP and SHF, which had documented codes of conduct and processes of consensus-building. Members of all groups spoke of actions outside of meetings that were considered to support or undermine collaboration, such as press releases or work with local county governments. Similarly, members of all groups talked about the importance of good faith, though with some

differences. NPFP members often spoke of good faith in terms of willingness to compromise and negotiate, whereas FWCC discourse often centered on the need to listen to local people and "the science." Definitions of openness and good faith remained contested among members of the SHF.

Strategic Uses of Collaborative Discourse

Talk about collaboration was not merely passive description of different ideals and practices. Mentions of collaborative ideals did work to bring certain visions of collaboration into being and to claim or contest the legitimacy of these visions as part of a struggle for influence in the forest plan revision. Individuals spoke of collaborative ideals to fellow group members, potential members, Forest Service employees, constituencies, and the public, and by doing so they created definitions of collaborativity and arguments for who and what was collaborative and thus deserving specific attention in the forest plan revision. Uses of discourse about the value of collaboration and the nature of collaborativity fell into four general categories: group formation and identity, contesting collaborativity, characterizing actors and policing behaviors, and questioning collaboration (see *Table 2*).

Group Formation and Identity

Collaborative claims were used to establish and reinforce group identity and practices. In the first meetings of the group that became the NPFP, rhetoric emphasizing the general value and need of collaboration was prevalent. Participants spoke repeatedly about how collaboration is "how you get things done" and the need "to get everyone at

the table." Claims were made specifically about the centrality of collaboration in the 2012 Planning Rule and the efficacy of collaboration for both influencing the forest plan and creating better future forest management. Both influence and better management could be achieved through broad representation – together actors would have more "clout" in the process and more capacity and social license for implementation. Establishing these benefits made it strategic for individuals to give what was at times significant time and resources for participation.

In the SHF, similar arguments around the benefits of collaboration were made to gather support. However, the SHF was precipitated by the Forest Service and was thus assumed by many to have special influence, which also incentivized participation. The FWCC preexisted the forest planning process but was revitalized in the comment period, and its identity relied on claims to grassroots status and unheard rural and sportsmen voices rather than appeals to collaborative ideals.

In addition to attracting members, collaborative ideals were part of negotiating collaborative practices within groups, specifically in the NPFP and SHF. Both groups hired third-party facilitators and created formal documents detailing group structures, functions, and consensus processes, which together created specific interpretations of representation, accessibility, neutrality, and efficacy. For example, there was desire of some SHF members to enact representation through open-ended membership like the NPFP, but this was countered with ideals of efficacy reliant on a relatively small group and ideals of representation reliant on balancing interests. Or, within the NPFP, accessibility and representation were debated in terms of who could be a member, which came to mean meeting minimum participation requirements and representing a

constituency, most likely through a formal organization or affiliation that fit into one of seven interest areas.

Table 2**, **Using collaborative discourse and claims.

Use	***Primary Audiences***	***Examples***
Group formation and identity	• Group members • Funders • Public	• NPFP member emphasizes general value of collaboration to attract and retain group members. • NPFP member narrates future efficacy of collaboration to influence the forest plan and improve implementation currently hamstrung through conflict.
Contesting collaborativity	• Forest Service • Group members	• FWCC member speaks of the NPFP's daylong meetings that exclude working people. • NPFP member proclaims that the group has open membership compared to limited SHF membership.
Characterizing actors and policing behavior	• Group members • Forest Service • Facilitators	• SHF member accuses another of activities outside the group that undermined collaboration. • SHF members approach facilitators about what to do about another member unwilling to move from a position.
Questioning collaboration	• Forest Service • Public	• Environmental actor outside of the collaborative groups uncertain of others with shared interests who "drank the Kool-Aid" of collaboration.

Talk about collaboration was also used to establish an identity with external actors. Some of this was part of group formation, such as NPFP applications to granting institutions for funding. All groups had some sort of media or social media presence and ways of advertising their existence and work to bolster their identity. For example, the FWCC held meetings around the 18-county region, advertising to local counties and hunting clubs and welcoming participation of county commissioners, representatives of congressional delegations, and Forest Service leadership. The NPFP also invited Forest Service representatives to meetings as well as developed a media strategy and supported panels around the region promoting a collaborative forest plan. Both the NPFP and SHF fashioned external messages to inform the public about the collaborative work being

done, in part to persuade the public that a "win-win, collaborative forest plan" was possible and to reduce heated, polarizing rhetoric in the media.

Contesting Collaborativity

Appeals to collaborative ideals were also used to claim the collaborativity of a group and contest that of others. Collaborativity was associated with legitimacy – collaborative ideas and proposals were presumed to have more influence in the planning process because of the 2012 Planning Rule and informal narratives. Thus, there was active debate over which groups and actors were truly collaborative and which could be minimized as narrow or uncollaborative. The primary audience of these arguments were Forest Service employees, who were thought to differentially weigh collaborative input versus that of a narrow interest group despite protests from Forest Service planning team members that they were listening to everyone. Other group members were also audiences, as groups formed shared narratives of collaboration in the forest planning process that maintained group identity and unified voices. Arguments about collaborativity took the form of direct comparisons among groups and appeals to specific ideals that were or were not met.

Competition over collaborativity began amongst members of the NPFP and FWCC. The group that became NPFP was first to make claims to collaboration, beginning with formative meetings in late 2012 and early 2013. Early meetings included brainstorming of interests to be invited and discourse revolved around creating a "big tent." This inclusivity and effort to "bring everyone to the table" was often framed in contrast to what some considered a non-collaborative, business-as-usual approach by the

Forest Service in conducting the planning process. Some members of the NPFP with previous experience in forest planning spoke of Forest Service processes tending to pit interests against one another and saw the NPFP as an alternative that could enact the collaborative emphasis of the 2012 Planning Rule.

In a fall 2013 NPFP meeting, attending Forest Service employees mentioned that the group was one of multiple collaborative voices, including the FWCC. This was the first time many NPFP members heard that their claims to be the collaborative group working through the forest plan revision were contested. The announcement was followed by tense exchanges in which members, feeling their efforts being minimized by the Forest Service, challenged this one-of-multiple narrative. NPFP members pointed to their broad representation and active openness to include additional voices. Over the coming months and years, some NPFP members continued to argue the breadth and openness of their group compared to the FWCC's representation of largely hunting-related interests. Indeed, not joining the NPFP was considered by some as indicating non-collaborative actors rather than diminishing the NPFP's collaborativity.

Members of the FWCC claimed collaborativity in part as a reaction to NPFP claims, questioning the ideals of neutrality and representation of the NPFP and its founding members. The NPFP began with contributions of time and resources from The Wilderness Society (TWS) to help organize and provide administrative support. TWS made steps to share ownership of the NPFP broadly, but the initial investment of TWS gave some FWCC members reason to discount the neutrality of the group. Some FWCC members also minimized NPFP claims of representation, speaking of it as dominated by environmental protection and recreation interests out of an urban Asheville and not truly

broad or inclusive of local or rural interests. FWCC members also argued the inaccessibility of the NPFP's day-long meetings during work hours that favored "special interests" paid to be in the room and representing distant urban publics potentially misled by misinformation from national groups. In contrast, FWCC members pointed to their evening meetings open to working people and the "real grassroots" who knew the land from first-hand experience.

The FWCC narrative of representing local people rather than interests was in turn refuted by NPFP members who pointed to how local publics were represented in the constituencies of member organizations and the involvement of specific participants such as the Director of Economic Development of Graham County, a rural county in the far west of the region. Other members expanded the discourse around the public to emphasize that the Nantahala and Pisgah are national forests requiring representation of the full spectrum of local, regional, and national publics. Along this line of argument, some pointed to an analysis of the over 15,000 public comments submitted to the Forest Service in the planning process to claim that the NPFP, and not the FWCC, better represented the broader public reflected in those comments. These understandings of representation further manifested in the two groups' stance towards elected officials. Some NPFP members were wary early on in incorporating county governments or elected officials, desiring that the group remain citizen-led and not "politicized" (non-elected representatives were more easily accepted). FWCC members in contrast spoke often of deferring to county governments as to what management should occur on national forests within county boundaries, framing county commissions as the democratic representatives of local people rather than interest-based constituencies.

Select members of both the NPFP and FWCC met in the Stakeholders Forum. The creation of a space to bring together representatives of these interests and organizations was part of the basis of SHF claims to representation – the different "sides" were now in the same room. However, the claims to collaborativity of this "super-collaborative" were also contested. For some FWCC members, the day-long meetings during workdays again indicated inaccessibility and eventually led to some individuals being unable to participate. Some FWCC members also distrusted the neutrality of the SHF – a member of the facilitation team had at one point been part of an environmental organization and thus potentially biased. Members of the NPFP contested any claim that the SHF had "broader" representation, pointing to who was excluded from the SHF process compared to the open enrollment in the NPFP. Members also pointed to the large portion of SHF participants that were already engaged with the NPFP. There was also some distrust of the Forest Service's motivations in forming the SHF – some questioned whether the creation of the SHF was meant to undermine the collaborative legitimacy of the NPFP and create confusion in which the agency might better justify the decisions it wanted to make. Some thought that if the agency was serious about collaboration, it should have given the NPFP the agency's blessing and encouraged other groups to join this pre-existing collaborative group. The creation of the new group, with its limited membership and inclusion of potentially non-collaborative actors, indicated to some that collaboration was being designed to fail and further the agency's interests.

NPFP members further distinguished their collaborative credentials compared to the SHF through appeals to efficacy. The NPFP had previously agreed on a vision to stay together past planning and into implementation, but in the period after the SHF was

formed there was a renewed emphasis on this idea. In this narrative, the planning process was only a small part of what would make change in the landscape. With limited Forest Service capacity, an active group of partners would be needed in implementation – where the SHF was designed to be temporary, the NPFP would be there to do the work on the forest as well as comment on national legislation and policy impacting public lands. Claims were also based around productivity within the planning process. Some NPFP members dissatisfied with the SHF argued that the latter was not 'true' collaboration by comparing the detailed consensus recommendations created by the NPFP (linked to hard-won understandings and relationships) to the SHF where they saw less progress. In response, some SHF members not part of the NPFP sought to bolster the SHF's claims to collaborativity, countering that the group had already achieved "win-wins" by providing the Forest Service with valuable information about the true diversity of perspectives, creating relationships among stakeholders, and developing transparency and understanding in the planning process.

Characterizing Actors and Policing Behavior

Actors were judged as valid collaborative partners in part by their respect for collaborative processes and whether they engaged in good faith. Respect for process was established by conforming to explicit and implicit expectations for behavior established by the collaborative groups. Good faith applied to the intentions behind behavior. Claims thus spoke to actions as well as interpreted intentions behind those actions. The emergence of the three collaborative groups reflects in part the mistrust at play in the forest planning context and which continued in the interactions among and within groups.

Within an atmosphere of mistrust among actors seeking to influence a high-stakes forest plan, many actions were interpreted as counter to collaborative expectations and to reveal the non-collaborative nature of specific actors.

Questions about respecting process and engaging in good faith reoccurred in the SHF, which remained the most contentious of the three groups. One example centered on a collaboratively developed memorandum of understanding, simply called the MOU, that brought together wilderness and mountain bike advocates, among others. Mountain biking is not allowed in congressionally designated wilderness areas, so the designation of wilderness can directly take away from land available for a growing mountain biking community. The MOU was understood as a triumph by those involved and was touted as novel in the nation for aligning these interests. This collaborative initiative occurred independently but included many members of the NPFP. The MOU agreement was finalized as the SHF process began, and the MOU was met with anger in a tense SHF meeting by some who considered it to be a clear and purposeful bid to undermine or influence the SHF process. Others in the meeting defended the MOU and countered with questions about accusers' involvement in a string of anti-wilderness resolutions passed by a dozen of the 18 counties in the region. Actions outside the SHF, particularly regarding county governments or media narratives, were cited by various members as indications of bad faith.

Claims of good or bad faith were further based on interactions within meetings. Within the SHF, some members claimed that others were not open to their interests by not expressing acceptance of their values or willingness to compromise. Others saw the proof that other actors were not open or collaborative later in the process, pointing to

proposals that remained unagreed upon as an indication that they had not been heard. Individuals largely defended their own actions and good faith engagement in collaboration, seeing their own actions as consistent with collaborative ideals whereas others might fall short. For example, willingness to negotiate was a primary indication of an actor's openness for some, while negotiation was interpreted as injecting emotion and special interests by others who preferred to characterize collaboration as an exercise of exchanging information, following the science, and supporting the Forest Service rather than "telling the Forest Service what to do."

Questioning Collaboration

Collaborative politics did not manifest only in contestations over which actors or groups were collaborative – individuals also questioned collaboration generally as unrealistic or even dangerous. For example, an environmental proponent spoke of allies as "drinking the Kool-Aid of collaboration" and selling out important values in their pursuit of collaboration. A wildlife and hunting advocate, after 5 years of forest planning with no immediate end in sight, blamed collaboration for giving space to special interests – "it should be about the science…let the land managers to do their jobs." Another wildlife representative involved in collaborative initiatives was called out by part of their constituency for compromising when they should have been sticking to the wildlife message. More severely, an environmental advocate lost their job after standing by an ambitious collaborative agreement that was perceived as an unacceptable compromise of values by other influential environmental representatives not involved in the process.

Discussion

Collaboration was enacted by three distinct groups in the Nantahala and Pisgah plan revision process, each matching certain interpretations of collaborative ideals and neglecting others. My analysis reveals trade-offs in these translations of abstract "collaboration" into assemblies of specific discourses and practices. For example, the NPFP's efficacy ideals required relationship-building and deep dialogue through frequent and day-long meetings, which was incompatible with the sort of accessibility ideals inscribed in the practices of the FWCC. Similarly, the SHF's interpretation of balanced but limited representation was incompatible with the extensive interpretation of the NPFP. Part of what animated the emergence of the three groups and members' competing claims to collaborativity was the multiplicity of collaboration which necessitates trade-offs – it was impossible for any group to fully instantiate a form of collaboration that exhausted all the potential values or interpretations of what collaboration ought to be.

These versions of collaboration were not chosen from a menu of discreet options – they were formed through the negotiations of actors navigating a specific political context. Precise definitions and enactments of collaboration did not preexist the work of actors negotiating those definitions as they enrolled others into collaborative efforts. For example, NPFP members developed their version of collaboration in contrast to what some saw as an uncollaborative Forest Service prone to pitting interests against one another and to rural county governments that were at times hostile to some of the represented interests. FWCC visions of collaboration were in part a reaction against the NPFP, expressing a desire to be heard by creating equivalence between the groups to balance potential influence that seemed promised through institutionalization of

collaboration in the 2012 Planning Rule and Forest Service rhetoric. The SHF was again a response, in part an attempt of the Forest Service to manage erupting contention as well as to show its commitment to collaboration.

Through both physical enactment and reference to ideals, each group built distinct visions of collaborativity and what processes and actors were collaborative or not. The success of these claims was mixed. The NPFP's collaborative vision attracted many committed participants representing various interests but was not able to gain the full commitment of the Forest Service. This failure was in part due to the FWCC's success in claiming collaborativity, which destabilized NPFP claims, framing the FWCC and NPFP as at least somewhat equivalent "sides." Similarly, the SHF succeeded in enrolling key stakeholders but did not convince all participants of the Forest Service's good faith in collaboration. Indeed, the SHF remained contentious with participants who held incompatible understandings of who and what was collaborative and used these various interpretations to legitimize or delegitimize certain voices.

The formation of the SHF was felt as an acute blow to many NPFP members, including many who participated in the SHF, partly a result of the NPFP's reliance on claims to collaborativity. The group relied upon collaborative discourse to attract and maintain a broad array of members (whose presence in part justified claims to collaborativity), gain funding, and lobby for legitimacy to the Forest Service, the public, and other entities. The FWCC and SHF, on the other hand, often relied on other sources of legitimacy. The FWCC drew on a narrative of underrepresented rural peoples and dwindling wildlife and had the sympathies of some elected officials. The SHF's close relationship to the Forest Service was understood as important regardless of other

collaborative characteristics. Tensions among the groups flared at points throughout the planning process, and while some actors accepted each as fulfilling a niche, the collaborativity of the groups and participating actors continued to be a topic of friction. Who and what was accepted as collaborative, and thus potentially deserving of more weight in the planning process, remained anchored in actors' positions, ideals, and strategies as they navigated the collaborative politics of the forest plan revision.

The institutionalization of collaboration around the world creates incentives for collaborative politics like those evident in the Nantahala and Pisgah forest plan revision. The value of collaboration was commended in both policy (the 2012 Planning Rule) and the informal narratives of the Forest Service, and many engaged in collaboration in part as a path to legitimacy. As with frameworks such as participatory governance or community-based natural resource management (Brosius, Tsing, and Zerner 2005, Cooke and Kothari 2001), the institutionalization of collaboration opens it up to potential cooptation as the rhetoric of collaboration is used to exert or hide influence (Singleton 2000, Ribot 1996). The Nantahala and Pisgah plan revision serves to complicate this picture, pointing to the ideals, strategies, and fundamental trade-offs of enacting collaboration that bely flattened accounts of collaboration success or subversion.

The rhetoric of collaboration in the Nantahala and Pisgah was used in strategic but also simultaneously idealistic encounters as actors created visions and groupings. The interpretations and enactments of the NPFP, FWCC, and SHF were certainly shaped by actors' navigation of the political context, but also pointed to some real, though different, ideals for what collaborative governance ought to be. The purpose here is not to provide an external evaluation of these groups' or actors' collaborativity, but to make explicit the

variety of collaborative ideals and trade-offs that can be hidden under the label "collaboration." Research and evaluation of collaboration must account for this multiplicity and discuss the specific ideals that are enacted or ignored and the implications of trade-offs for various actors and values. Likewise, efforts to institutionalize and implement collaboration must seek mechanisms to ensure trade-offs are transparent and the ideals unmet in collaborative efforts are achieved in other ways. Finally, potential participants in collaboration should beware of generalized conceptions that may hide unknown trade-offs and seek collaborative politics characterized by robust discourse around the collaborative ideals that are substantiated and subverted through their negotiations.

References

Ansell, Chris, and Alison Gash. 2008. "Collaborative governance in theory and practice." *Journal of public administration research and theory* 18 (4):543-571.

Brisbois, Marie Claire, and Rob C de Loë. 2016. "Power in collaborative approaches to governance for water: A systematic review." *Society & Natural Resources* 29 (7):775-790.

Brosius, Peter J, Anna Lowenhaupt Tsing, and Charles Zerner. 2005. *Communities and conservation: histories and politics of community-based natural resource management*. Rowman Altamira.

Chaffin, Brian C, Hannah Gosnell, and Barbara A Cosens. 2014. "A decade of adaptive governance scholarship: synthesis and future directions." *Ecology and Society* 19 (3):56.

Cheng, Antony S. 2006. "Build it and they will come? Mandating collaboration in public lands planning and management." *Natural Resources Journal* 46 (4):841-858.

Conley, Alexander, and Margaret A Moote. 2003. "Evaluating collaborative natural resourcemanagement." *Society & Natural Resources* 16 (5):371-386.

Cooke, Bill, and Uma Kothari, eds. 2001. *Participation: the new tyranny?* London: Zed Books.

Few, Roger. 2001. "Containment and counter-containment: planner/community relations in conservation planning." *The Geographical Journal* 167 (2):111-124.

Gray, Barbara, and Donna J Wood. 1991. "Collaborative alliances: Moving from practice to theory." *The Journal of Applied Behavioral Science* 27 (1):3-22.

Jenkins, Clinton N, Kyle S Van Houtan, Stuart L Pimm, and Joseph O Sexton. 2015. "US protected lands mismatch biodiversity priorities." *Proceedings of the National Academy of Sciences* 112 (16):5081-5086.

Johnson, Christopher, and David Govatski. 2013. *Forests for the People: The Story of America's Eastern National Forests*. Washington, DC: Island Press.

Maier, Carolin, and Jesse B Abrams. 2018. "Navigating social forestry–A street-level perspective on National Forest management in the US Pacific Northwest." *Land Use Policy* 70:432-441.

McCarthy, James. 2005. "Devolution in the Woods: Community Forestry as Hybrid Neoliberalism." *Environment and Planning A: Economy and Space* 37 (6):995-1014.

Monroe, Ashley S, and William H Butler. 2016. "Responding to a policy mandate to collaborate: structuring collaboration in the collaborative forest landscape restoration program." *Journal of Environmental Planning and Management* 59 (6):1054-1072.

Newfont, Kathryn. 2012. *Blue Ridge Commons: environmental activism and forest history in western North Carolina*. Athens: University of Georgia Press.

Orth, Patricia B, and Antony S Cheng. 2018. "Who's in Charge? The Role of Power in Collaborative Governance and Forest Management." *Humboldt Journal of Social Relations* 1 (40):191-210.

Ribot, Jesse C. 1996. "Participation without representation: Chiefs, councils, and forestry law in the West African Sahel." *Cultural Survival Quarterly* 20 (3).

Singleton, Sara. 2000. "Co-operation or capture? The paradox of co-management and community participation in natural resource management and environmental policy-making." *Environmental Politics* 9 (2):1-21.

U.S. Department of Agriculture. Forest Service. Southeast Region. 1994. *Land and Resource Management Plan Amendment 5*. Asheville: U.S. Department of Agriculture.

U.S. Department of Agriculture. Forest Service. Southeast Region. 2012a. *Forest Service Kicks Off Revision of Nantahala-Pisgah Management Plan*. Asheville: U.S. Department of Agriculture.

U.S. Department of Agriculture. Forest Service. 2012b. "National Forest System Land Management Planning." *Federal Register* 77, no. 68 (April 9, 2012): 21162.

U.S. Department of Agriculture. Forest Service. Southeast Region. 2014. *Nantahala and Pisgah National Forests Assessment.* Asheville: U.S. Department of Agriculture.

MAXQDA. 2018. Berlin, Germany: VERBI Software.

Vercoe, Richard A, M Welch-Devine, Dean Hardy, JA Demoss, SN Bonney, K Allen, Peter Brosius, D Charles, B Crawford, and S Heisel. 2014. "Acknowledging trade-offs and understanding complexity: Exurbanization issues in Macon County, North Carolina." *Ecology and Society* 19 (1):23.

Walker, Peter A, and Patrick T Hurley. 2004. "Collaboration derailed: The politics of "community-based" resource management in Nevada County." *Society and Natural Resources* 17 (8):735-751.

West, Paige. 2006. *Conservation is our government now: the politics of ecology in Papua New Guinea*. Durham: Duke University Press.

Wondolleck, Julia M, and Steven Lewis Yaffee. 2000. *Making collaboration work: Lessons from innovation in natural resource management*. Washington, DC: Island Press.

Yarnell, Susan L. 1998. "The southern Appalachians: a history of the landscape." *General Technical Report SRS-18*. Asheville: U.S. Department of Agriculture, Forest Service, Southern Research Station.

CHAPTER 3

DEEPENING ENVIRONMENTAL COLLABORATION SCHOLARSHIP THROUGH ANALYSIS OF GOVERNANCE PROJECTS IN THE SOUTHERN APPALACHIANS

Introduction

Collaborative forms of governance are widely called upon to address complex and contentious environmental issues. The challenges of implementation have catalyzed a corpus of collaboration scholarship concerning what fosters collaborative efforts (such as trust, facilitation, and joint learning) and what undermines them (such as capture by powerful actors for limited agendas) (Wondolleck and Yaffee 2000, Ansell and Gash 2008, Emerson and Nabatchi 2015, Bouwen and Taillieu 2004, Singleton 2000). However, such work often focuses on the form collaboration takes as a network of relationships or set of facilitated processes. Such a perspective risks ignoring the substantive implications of emerging collaborative initiatives for environmental governance. For example, focus on the abstract need to develop common visions to foster collaboration may come at the cost of overlooking what those visions are, who shares them, and how they were negotiated. In the context of national forest planning in the southern Appalachians, I ask how individuals negotiated differences of values, worldviews, knowledge, and strategy as they sought to forge collaboration and substantively influence the assumptions and practices of forest management.

To pursue this question, I draw on parallels between collaboration scholarship and what I call scholarship of governance projects. Environmental governance, as used here,

refers to formations of political-economic relationships, institutions, and discourses that influence environmental decisions and management (Lemos and Agrawal 2006, Hajer 1995, Leach, Scoones, and Stirling 2010). What I call governance projects are in turn schemes to change or stabilize these formations, such as the work of a federal agency to change patterns of land or resource use (Scott 1998). Scholarship of governance projects seeks to disentangle how specific environmental discourses come to organize the social relationships and assumptions of management (Hajer and Versteeg 2005, Murray Li 2007, McElwee 2016, Hajer 1995).

However, there are parallels between governance project concepts and collaboration scholarship that suggest a potential for cross-pollination. For example, collaboration scholarship recognizes the importance of a shared understanding of the problem at hand (Emerson and Nabatchi 2015, Olsson et al. 2006). What can be left unaddressed is how problems come to be defined and the implications of a problem framing for what perspectives, knowledge, and values are centered or marginalized. The concept of problematization, which is used ubiquitously in analysis of governance projects, can fill this gap, specifically drawing attention to the discourses and assumptions that underlie specific problem framings and their social and ecological consequences (Murray Li 2007, Hajer 1995). Similarly, whereas collaboration scholarship often focuses on the formation of collaborative relationships, governance projects must be analyzed for their specific ideological content and how they contest or maintain current governance formations.

In this manuscript, I assemble parallels between collaboration and governance project scholarship and apply them to enrich analysis of how individuals create and

navigate collaborative initiatives. Specifically, I examine five years of meetings during which individuals formed the Nantahala-Pisgah Forest Partnership (NPFP), a group created to comment on a forest planning process in the southern Appalachians. The NPFP formed independently of the U.S. Forest Service as the planning process began in 2012 and developed into a stable group that engaged historically opposed interests, such as environmental, recreation, hunting, and forest products advocates. While the formation of the NPFP may be viewed as a success of process and relationships, I argue further understanding of the group requires investigation of individuals' work to influence and change forest governance.

In the following, I briefly review literature of environmental collaboration and governance projects and identify parallels I suggest can expand current understandings of how collaboration works. I then introduce the Nantahala and Pisgah National Forests, the forest planning process, and the NPFP. After providing an overview of my methods, I present my analysis of the NPFP and the additional value a governance project perspective brings to collaboration theory and practice. Of specific note are the importance of problematization for understanding the varied motivations individuals have for engaging in collaboration, the creativity of individuals in linking together one another's problems, the tradeoffs inherent in limiting or opening participation, and the role of collaborative discourse in creating new political identities.

Literature Review

Collaborative initiatives promise to improve environmental governance by linking actors who influence or are influenced by an environmental issue, bringing together

various forms and sources of knowledge to address complexity, expanding equity and legitimacy of decision-making, and strengthening relationships among participants with contending values and interests (Emerson and Nabatchi 2015). Sustained interest in cultivating collaborative approaches has produced scholarship from a variety of disciplines (such as public administration, natural resource management, planning, conflict resolution, and negotiation) and lenses (such as institutional theory, social-ecological systems, and network theory) (Wondolleck 2013, Ansell and Gash 2008, Conley and Moote 2003, Innes and Booher 1999, Bodin 2017, Olsson, Folke, and Hahn 2004). While diverse, much of this scholarship is united by a view that the challenge of collaboration is to foster relationship building, rational deliberation, learning, and consensus forming among actors with heterogeneous interests (Emerson and Nabatchi 2015). The focus of research is to identify the conditions and variables that contribute to the success of or undermine this work. For example, neutral facilitation, leadership, social capital, and trust among participants can foster collaborative relationships while lack of resources, power asymmetries, obstacles or disincentives to participation, and the lack of shared visions may undermine collaboration (Plummer and FitzGibbon 2006, Brisbois and de Loë 2016, Conley and Moote 2003, Walker and Hurley 2004).

The common focus on network structures of collaborative relationships or what factors foster or undermine dialogue can ignore how collaboration may transform or reinforce current forms of environmental governance, defined as the formations of political-economic relationships, management institutions, and discourses that shape environmental knowledge, identities, decisions, and outcomes (Lemos and Agrawal 2006, Hajer 1995). As attempts to improve environmental governance, collaborative

initiatives are governance projects that attempt to change or sustain some aspect of governance formations, such as relationships among actors or the discourses that underly management. The specific problem framings and assumptions instigating or developed within collaborative efforts thus have implications for resulting governance formations (Hajer 1995, Leach, Scoones, and Stirling 2010).

For example, Li (2007) depicts community forest management as a governance project pursued by government agencies, nongovernmental organizations, and others in Indonesia and beyond. Similarly, Hajer (1995) explains discursive argumentation over acid rain policy in the United Kingdom and the Netherlands. These governance projects pose problems that require solutions and actors to implement them. While developed at broader scales, I argue the concepts developed by these and other authors can be applied to the scale of a multi-stakeholder collaborative process and interactions among participants. I suggest an initial list of seven practices that capture some of the diverse but overlapping concepts used to explain how governance projects are formed and sustained and which may be applicable to collaborative efforts: 1) problematization – how actors define problems and solutions, 2) forging alignments – how actors link together problems, solutions, and practices to form a network, 3) containment – how actors limit and justify limits to conversation and participation, 4) characterization – how actors form new identities and characterize themselves and others, 5) knowledge production and authorization – how actors establish what knowledge is pertinent and produce evidence for the identified problem and its potential solutions, 6) institutionalization – how actors seek to institutionalize their version of the problem and its solutions, and 7) re-narration –

the ongoing work of incorporating new information into narratives and responding to tensions, contradictions, and alternative narratives.

With these seven practices, I adapt Li's (2007) practices of assemblage, which flexibly identifies important work done in constructing governance projects without implying a specific progression. These practices are thus not meant to indicate a series of steps, but rather ongoing work undertaken by actors in the construction, maintenance, and adaptation of a collaborative initiative. The practices have parallels in collaboration literature, as shown in Figure 1, but, I argue, also contribute a distinct analytical angle (e.g., as described above in the example of the importance of common problem definition in collaboration scholarship and the practices of problematization within governance projects).

Each practice will be treated individually in more depth below through the analysis of the Nantahala-Pisgah Forest Partnership. Here I will only note a few general distinctions between collaboration literature and the proposed analysis with its focus on the discourses that underly collaborative efforts. For example, collaboration scholarship often focuses on limited agents, such as leaders, facilitators, and conveners, who in turn seek to implement processes to develop trust, relationships, and dialogue (Susskind and van Maasakkers 2012, Ansell and Gash 2008). In contrast, all individuals may engage in the practices of forming a governance project as part of their negotiation of potential change (Murray Li 2007). Similarly, whereas collaboration research often focuses on the dynamics of individuals within collaborative settings or as nodes in abstract networks (Bodin 2017, Caves et al. 2013, Wondolleck and Yaffee 2000), governance projects provide a pathway to see meeting conversations as always within the context of broader

discourses of environmental politics (Hajer 1995, Daniels, Walker, and Emborg 2012). Thus, rather than collaboration being a process in which individuals with stable interests and identities engage in dialogue, governance projects reveal how identities and interests are forged through social and political interactions within and outside of collaborative meetings (McElwee 2016).

Figure 1, Collaborative Governance Practices. *Each practice of collaborative governance projects is derived from parallels between scholarship of governance projects and environmental collaboration.*

Practice	**Governance Projects**	**Environmental Collaboration**
Problematization: How actors define problems and solutions.	Li (2007): How problems come to be defined in relation to particular schemes of thought, diagnoses of deficiency, and promises of improvement. McElwee (2016): Define target entity, visualize the target, and name the problem. Hajer (1995): How problems get defined has political consequences.	Emerson and Nabatchi (2015): A common definition of the problem is a necessary part of collaborative success. Olsson (2007): Crises can provide a window of opportunity for new collaborations.
Forging Alignments: How actors link together problems, solutions, and practices to form a network.	Li (2007): Linking together the objectives of the various partners to an assemblage. McElwee (2016): Formation of the network through interressment and enrollment of actors and identification of material forms of the network. Hajer (1995): Through argumentation, actors work to develop new storylines that reorder understandings and link heterogeneous actors into discourse coalitions.	Schon and Rein (1994): reframing problems is an effective facilitation tool for collaborative problem solving. Ansell and Gash (2008): Identification of shared values and buy-in to deliberative processes.
Containment: How actors limit and justify limits to conversation and participation.	Li (2007): Practices of anti-politics in which political questions are reposed as matters of technique and reference to expertise. Hajer (1995): Actors seek discursive closure in which discursive fragments become related to one another and result in a particular definition of the problem in exclusion of other potential definitions.	Purdy (2012): the power of agenda-setting and dangers of power asymmetries to collaborative processes. Singleton (2000): dangers of containment and capture of collaborative processes by powerful actors.
Characterization: How actors form new identities and characterize themselves and others.	McElwee (2016): Subject formation to encourage new conduct and the internalization of that conduct among subjects. Hajer (1995): Discursive interactions create new identities and positionings. Storylines create new social and moral	Goldstein (2013): Characterizing actors for collaborative planning Lejano et al. (2013): Characterizing oneself and others to create and maintain environmental networks.

	orders, including characterization of actors as victims, problem solvers, perpetrators, etc.	
Knowledge Production and Authorization: How actors establish what knowledge is pertinent and produce evidence for the problem identified and its potential solutions.	Li (2007): Specify requisite body of knowledge, confirm enabling assumptions, and contain critiques. Render the messiness of the world into a set of clear relationships of problems and solutions. McElwee (2016): Identify expertise and choose mechanisms for calculation. Hajer (1995): How actors relate many separate elements of knowledge to produce authoritative narratives.	Cundill and Rodela (2012): Social learning and joint fact-finding as the basis of collaboration. Armitage (2005): Collaborative learning to manage complex social and ecological systems.
Institutionalization: How actors seek to institutionalize their version of the problem and its solution.	McElwee (2016): Technologies of intervention are applied. Hajer (1995): Actors seek discursive structuration in which argumentation is conducted using their preferred categories and discursive institutionalization in which their version of the problem and solution are accepted and formalized.	Tomson (2008): Linking collaboration to outcomes. Cheng (2006): Attempts to institutionalize collaboration through policy innovations.
Re-narration: The ongoing work of incorporating new information into narratives and responding to tensions, contradictions, and alternative narratives.	Li (2007): Managing failures and contradictions by presenting failures as the outcome of rectifiable or superficial deficiencies. Deploying existing discourses to new ends and grafting on new elements and reworking old ones. Hajer (1995): Actors actively select and adapt thoughts, mutating and creating ideas in the continued struggle for argumentative victory against rival thinkers.	Emerson and Nabatchi (2015): Depict collaborative governance regimes as an ongoing cycle.

The Nantahala and Pisgah

The Nantahala and Pisgah National Forests consist of 1.1 million acres of federally managed land fragmented across eighteen western North Carolina counties in the southern Appalachian Mountains (USFS 2014). The land holds a diversity of elevations, aspects, and geologies which are home in turn to diverse forest communities that include many endemic species and species of conservation concern (Pickering et al. 2003, Jenkins et al. 2015). The region has a long human history and continues to be home to indigenous communities as well as generational settler families and more recent migrants attracted to natural amenities and related industries. The Nantahala and Pisgah

play a central role in the identities and livelihoods of residents as a source of water, recreation, cultural heritage, timber, tourism, subsistence, and wilderness (USFS 2014).

What is now the Nantahala and Pisgah was bought from private owners beginning in 1911 and the passage of the Weeks Act, which allowed federal purchase of land to protect and regenerate forest in the headwaters of major river systems after mass clearcutting in the eastern US had led to fire and flooding (Miller and Lewis 2018). Some of the first tracts of land purchased under this authority were in the area of the Pisgah National Forest, marking the beginning of management by the then-new US Forest Service. Since its purchase, management of the Nantahala and Pisgah has generally followed a national trajectory with the transformation of the Forest Service over the 20th century (Abrams 2019). An initial phase of Forest Service management focused on protection and regeneration to protect watersheds, followed by a period of increasing timber production organized around a framework of sustained yield after the second world war.

Concern about timber production to the exclusion of other values and a growing environmental movement led to a series of legislation and legal cases in the latter half of the century which removed some areas from timber production and increased requirements for environmental analyses and public involvement in planning and decision making (Johnson and Govatski 2013). How national forest lands should be used and how to balance environmental protection, forest products, and other interests became national questions. In western North Carolina, controversy was sparked over issues of wilderness designations and timber harvest in the Nantahala and Pisgah's first forest planning process in the 1980s (Newfont 2012). Protests mobilized local people both for

more protection of lands they saw as being overexploited and for timber economies reliant on both publicly and privately owned forest lands. Controversy and litigation resulted in the *Land and Resource Management Plan Amendment 5*, which was released in 1994 (USFS 1994) and limited timber harvest and clearcutting relative to prior rates.

The following two decades of management under the 1994 forest plan coincided with decreases in Forest Service capacity and changes in the demographics and economies of the region (USFS 2014). In 2012, a forest plan revision process began which would result in a new forest plan to guide management (USFS 2012a). The planning process elicited a strong public response and controversy among various actors concerned with forest management. For example, advocates of the forest products industry pointed to the annual timber harvest that fell well below allowable acreages and failed to support local industry. Individuals concerned with species dependent on early successional or young forest habitat expressed similar concerns with the lack of active management such as timber harvest and prescribed fire. Environmental advocates noted that the timber projects that occurred continued to endanger environmental values by failing to adequately recognize sensitive species and rare habitats. Recreationists expressed concern about infrastructure that failed to meet demand and the backlog on maintenance and repair.

Controversy over the forest plan played out in Forest Service public meetings, public comments, county resolutions, rallies, press releases, and media. In addition to established Forest Service requirements to elicit public input, the forest plan revision occurred under the 2012 Planning Rule, which replaced the 1982 Planning Rule and included new emphasis on collaboration. While collaboration was not required, planning

rule guidance to "[use] collaborative processes where feasible and appropriate" (USFS 2012b) was understood as encouragement by many stakeholders. Some environmental advocates met in preparation for the planning process and began forging connections with recreation organizations. Early meetings consolidated interest in inviting a broader array of interests and pursuing a collaborative forest planning effort. This group became the Nantahala-Pisgah Forest Partnership (NPFP) and came to include members and affiliates representing hunting, fishing, forest products, cultural heritage, and community economic development interests in addition to early conservation and recreation representation. While the NPFP name came after many meetings, for clarity I use the name to refer to the group at all stages of its development.

NPFP members identified themselves as a multistakeholder collaboration that could fulfill the collaborative guidance in the 2012 Planning Rule and help craft a forest plan that could improve management, limit conflict, and incentivize partnerships for implementation. The group met monthly in various locations around Asheville, NC for much of the forest planning process (ongoing at the time of writing), with some periods of more intense work around key deadlines to submit input on the plan. Members procured grant money to hire outside consultation and facilitation support and crafted a charter and a set of processes for negotiation and consensus building. While a core group participated consistently throughout the planning process, participation and membership shifted over the years and included at various times official representatives of nongovernmental organizations, local government, state agencies, forest products businesses, as well as some individuals associated with other interests, such as guiding services and the Eastern Band of Cherokee Indians.

Methods

My analysis of the NPFP is based on fieldwork beginning in the group's formative stages in 2013 and through to its development of a set of recommendations for the draft forest plan in 2017 and continued work in 2018. Over this period, I made 24 short-term visits lasting one to five days each to attend meetings, conduct interviews, and engage in other forest-related activities. I conducted an additional ten months of fieldwork in 2018. Data collected included fieldnotes of meetings, official meeting records and presentations, and produced documents such as proposals for the forest plan. I also conducted semi-structed interviews with 53 individuals at one time involved with the NPFP focused on forest values, threats, and the ongoing collaborative efforts. The list of interviewees was chosen purposively to include all interests involved in the group and to include all key players active in its work. Collaborative mapping was an important part of the NPFP's work in developing recommendations for the forest plan, and for a portion of the research period I provided technical assistance to the group, helping to create GIS layers and maps for meeting conversations.

Transcribed interviews, fieldnotes, meeting notes, and other documentation were organized chronologically in MaxQDA (VERBI 2018) for analysis. The focus of analysis were meeting practices and argumentation, and interviews were used to provide additional context for individual understandings and stances. Materials were coded according to the framework outlined in the literature review (problematization, forging alignments, containment, characterization, knowledge production and authorization, and re-narration) in a first cycle of coding (Miles, Huberman, and Saldana 2014). Each

category of coded material was then revisited individually in a second cycle of coding to draw out recurring themes and patterns answering the question of how actors navigated each practice as part of forming the NPFP and seeking change in forest governance.

Results

Analysis of individuals' practices of navigating the formation, maintenance, and influence of the NPFP revealed parallels to findings from other investigations of environmental governance projects. NPFP members actively sought to define problems and solutions, characterize themselves and others, authorize and produce specific sorts of knowledge, and institutionalize their views. At the same time, the context of collaboration gave these practices a personal character as individuals interacted directly in meetings. Participants' specific histories, views, relationships with broader organizations, and abilities to attend meetings regularly all had tangible impact on the form and content of conversations. For example, practices of problematization were not limited to broad discourses of forest management generally, but also included specific personal narratives and experiences. Likewise, efforts to forge alignments, produce and authorize knowledge, and institutionalize understandings all required careful and creative work in tying together actors' experiences. Within meetings, individual creativity in navigating the social, political, and technical aspects of forest planning and management was center stage.

Likewise, analysis of the NPFP paralleled investigations of collaborative processes. NPFP members forged relationships and implemented facilitated learning and negotiation processes. However, analysis as a governance project drew attention to the

ways in which these relationships and facilitated processes were embedded within a larger social, political, and ecological context. For example, members consistently spoke of potential challenges to their ideas for the forest plan from various well-connected actors that could "drive interests to their corners" and undermine the group's emerging narrative of collaborative opportunities. Navigating those external dynamics were never far from conversations that began primarily concerned with compromise among participating individuals.

In the following, I present seven practices of assembling collaborative governance projects and how NPFP members formed and maintained a cohesive group and sought influence in forest governance. The ordering of the practices does not indicate a progression – many of these practices occurred simultaneously and in overlapping manners. However, the order of presentation is purposive and is meant to clarify the contours of the NPFP's formation, work, and struggles.

Problematization

Problematization describes the ways in which individuals define or frame problems and their solutions. Collaboration scholarship indicates that a common definition of the problem is necessary for successful collaboration. Problematization deepens this insight, showing that problem identification is not important simply for cultivating collaboration, but because specific problem framings shape and are shaped by who is involved, the form collaborative processes take, and what solutions and actions are considered possible. Investigation of the practices of problematization focuses

attention on the diversity of perspectives concerning what problems and potential solutions exist.

The Nantahala-Pisgah Forest Partnership attracted a heterogeneous set of interests to its meetings, and the range of problematizations expressed reflected much of what was expressed in the planning process as a whole. There were two primary sorts of problems articulated: 1) substantive problems concerning the forest and its management and 2) processual problems concerning the forest plan revision process as conducted by the Forest Service. Within this mix of problems, collaboration was proposed as a potential solution.

Substantive Problems

Many environmental advocates considered the primary threat to the Nantahala and Pisgah to be poorly planned and executed timber and road building projects that eroded environmental priorities. In this view, the national forest was a refuge of rare ecological communities and species, old growth, and unfragmented forest areas that could be destroyed in a short period of time but would take centuries to restore, if at all. These problems required increased long-term protections in the forest plan and strategies to reduce the impacts of timber harvests, non-native invasive species, and unmanaged roads and trails. Central to this problematization was the relative smallness of national forest refuges for biodiversity values within a regional, national, and even international context and distrust of Forest Service professionals to use discretion wisely.

In contrast, some participants involved with the forest products industry and certain wildlife and hunting advocates saw a primary problem with forest management as

being the lack of timber harvest. The two decades under the 1994 forest plan had resulted in timber harvest that fell beneath previous levels and the limits of the 1994 plan itself. Forest products advocates saw a need for a significant increase to support a flagging local industry that in turn supported loggers, small mills, and others. Some wildlife species, including many game species such as deer and turkey, required early successional habitat that could be produced through timber harvest or other disturbances. Such habitat was declining on the Nantahala and Pisgah and increased timber harvest was said to be critical for restoring balance on the scale of the national forest. A plan that allowed for more harvest and potentially decreased some of the obstacles to planning and implementing timber harvests could help solve this problem. The issue was often framed in terms of tension with environmental advocates, who were implicated by some as part of the obstacle to needed harvests.

Recreation interests saw forest management as falling behind the increasing demands for recreation access and use on the national forest. They noted the lack of direction for recreation in the existing forest plan in juxtaposition to the Nantahala and Pisgah's status as one of the top three most-recreated national forests in the U.S. and the importance of recreation for the region's economy. Advocates routinely pointed to specific trails, campgrounds, roads, and parking areas that did not meet the needs of users and required maintenance or new construction. There were also concerns about conflicts among various recreation groups, such as mountain bikers, hikers, and equestrians as well as frustration with bureaucratic obstacles faced by those hoping to volunteer for maintenance work. Other participants articulated additional problems, such as around issues of needed restoration of forest communities and ecosystems, the difficulties of

obtaining permits to offer guiding services, or how to ensure that management of the national forest land could help local development goals of communities and counties.

Processual Problems and Collaborative Solutions

In addition to substantive issues with the forest and its management, participants in NPFP meetings articulated problems with the forest planning process. Many cited first or second-hand experiences with other national forest plan revisions and the propensity for the Forest Service to use the conflicting values represented in public comments to justify their own decisions or to create poor compromises that met the needs of no one. Similarly, participants expressed fear that their voices would not be heard in the planning process, a fear exacerbated by what some perceived as a rushed timeline to complete the entire planning cycle within three or four years.

A potential solution to these various problems was collaboration. In early meetings, this proposed solution remained underdefined – it was unclear what collaboration should look like or how it would solve the many issues articulated by participants. Rather than specifics, collaboration was portrayed broadly as a positive, with many refrains of "collaboration is how to things get done" and metaphoric calls for a "big tent" and to get "everyone at the table." Participants encouraged one another to come to future meetings and invite more people, often drawing on their own experiences of collaborative successes around projects or pointing to other examples of collaboration in forest planning as templates of success, such as collaboration on the George Washington National Forest.

NPFP meetings were sites where participants articulated specific problems with the national forest, its management, and the forest planning forest. This multiplicity of disparate problems was paired with a general, ambiguous solution of collaboration. What collaboration would precisely entail and how it might provide solutions to problems remained unclear, and participants used generalized rhetoric of the promise of collaboration and examples of other collaborations to establish its potential. The existence of conflict among participants' substantive problems could in this way be rendered a reason for collaboration. However, work was needed to further link problems together and define what collaboration would look like, which I describe in the next section on forging alignments.

Forging Alignments

Forging alignments describes the work done by actors to link together problems and goals to form a network. Problematization in the NPFP resulted in a set of seemingly unconnected and even competing problems and an underdefined claim that collaboration might provide a common solution. Much of the work of NPFP participants was to seek to make good on general claims of collaborative potential and more concretely link together each other's concerns. The work of forging alignments highlighted the creativity of individuals who sought narratives, concepts, and practices that might bind participants together into a cohesive and coherent group.

Developing relationships among stakeholders with conflicting interests is a central theme in collaboration scholarship, which speaks to the importance of social capital, trust, and the formation of common visions. However, with the concept of

forging alignments, interests need not be the bases of conflict (Hajer 1995). Rather, storylines take the fore and individuals narrate interests as in conflict or open to collaboration and it is narratives and the coalitions developed under them that compete. Further, the mutual understanding implied in common visions may not be the priority. As Tsing (2011) and Hajer (1995) note, miscommunication and misunderstanding can be helpful in forging and maintaining alliances, allowing for fragile alignment despite continued tensions.

Promises and Structures of Collaborative Processes

NPFP participants established links among their goals by referencing concerns with the plan revision process. As mentioned above, some participants had negative views of Forest Service planning through first- or second-hand experiences in which antagonism among interest groups led to poor compromise decisions by the Forest Service. These actors made clear they anticipated the same could occur in the Nantahala and Pisgah if everyone was "driven to their corners." It was suggested that good compromises could not be developed by the Forest Service. Rather, only the stakeholders themselves, who had the detailed knowledge of their own needs and contexts, could find compromise by speaking directly to one another rather than filtered through Forest Service employees.

Further, some actors argued that attempting to have their voices heard as independent organizations or interests could lead to being drowned out in the broader clamor. The way to be heard was instead through a united voice and "clout" that came with a larger, broad-spectrum collaboration. One early leader went as far as to say "if you

have congressmen on speed-dial….you probably don't need to be here," implying that well-connected people had alternative paths to exercising power in the planning process. Evidence for the efficacy of a collaborative path forward was drawn from the new 2012 Planning Rule that emphasized the role of collaboration in planning and was taken as the reason the Forest Service would pay attention to the NPFP's efforts, especially early in the planning process when the agency was not pursuing collaborative initiatives itself. Moral arguments were also tied into these ideas of efficacy and clout – participants wanted "all interests at the table" to ensure future management would not be zero sum with winners and losers.

At the same time participants argued for the need for collaboration, there were questions of how to define and implement collaboration concretely. As noted above, the NPFP began as an emerging alliance of environmental and recreation organizations and expanding the group and defining its structure were points of struggle. Whereas some proposed visions of extensive collaboration and work with communities around the region, others pushed back with concerns of time, resources, and potential derailment. Participant's understandings of the promises, purposes, constraints, and dangers of collaboration led to a vision that demanded broadening the group to include "who was missing," which was defined collectively in early meetings as individuals who could represent an interest classified in seven categories: recreation, water, environmental conservation, forest products, wildlife, community development, and cultural heritage.

Membership was divided between full members who committed to regular participation in meetings, affiliates who could contribute and sign onto agreements, community members who were kept informed on the NPFP's activities, and observers

and technical advisors. Further, a leadership team was created, consisting of two representatives appointed by the corresponding interest area, which was tasked with creating agendas and moving the process forward. These structures and agreed upon norms of behavior were codified in a charter and code of conduct as well as through repeated practice in monthly meetings conducted in Asheville, NC. Further implications of defining collaboration are explored below under *Containment*.

Common Roots of and Solutions to Substantive Problems

Participants attempted to link together their disparate substantive problems with the forest and its management by framing issues as having common roots rather than being fundamentally competing or disconnected. One narrative included claims that while forest management issues such as forest protection and timber harvest were often thought of as directly in conflict, such conflict was not fundamental but rather the result of poorly planned projects. This narrative placed the blame for conflict on the Forest Service and a forest plan that did not provide clear guidance. A better plan crafted by stakeholders could avoid these conflicts and increase both forest protection and timber harvest.

Critique of the Forest Service as the cause of management problems allowed for novel alliances. For example, shared histories of distrust of the Forest Service came to be the basis of alignment between various environmental organizations and representatives of Graham County, a rural county whose commission had previously passed an anti-wilderness resolution in direct condemnation of some environmental groups' priorities for national forest land in the county. At the same time, other participants in the NPFP

preferred to frame the Forest Service as a partner and questioned whether the agency was the only cause of obstacles and whether some of the blame could be placed on overzealous environmental pushback. Tensions in these interpretations found common ground when focus remained on the role of the forest plan and popular media narratives in stoking problems rather than the agency or employees per se.

Whatever the cause of conflict, the critical part of the emerging NPFP narrative was that conflict was unnecessary and there was room for everyone's interest. In addition, conflict drained time and resources of both the Forest Service and others. If such unnecessary conflict was removed through a better forest plan, projects could be implemented more quickly, freed-up capacity could go towards more management and maintenance projects, and partnerships could be fostered to bring additional capacity from other organizations. In this narrative, antagonistic approaches to the forest planning process were doomed to fail in gaining desired outcomes – the potential for achieving one's goals relied upon achieving the goals of another.

The idea that conflict was unnecessary was powerful, but further work was needed to link together apparently competing interests. Ecological restoration became a central concept in making the narrative more concrete, spoken of as a meeting point for environmental protection, hunting, and forest products advocates. A restoration project could protect or restore local environmental priorities while also providing timber for forest products and early successional habitat for landscape-scale balance of age classes and habitat for species reliant on that balance. However, various actors interpreted restoration differently. For example, Forest Service employees might say that all their timber harvests are restoration, to which some NPFP members would agree but which

would be quickly denied by environmental advocates who saw many harvests not as "true restoration" but rather motivated primarily by timber needs and legitimated through restoration rhetoric.

Despite debates and tensions, ecological restoration remained a rallying cry in part because its many definitions made it desirable to many communities and organizations. The ambiguity of what was meant provided space for negotiation and, importantly, the ability to create narratives that might be salient in a broader political context. Individuals knew the significance of getting a powerful stakeholder on board with their proposals and were very aware of the constraints and politics of their own organization or community's potential support for any specific narrative or potential agreement. In the narratives exchanged, achieving increased timber required further protection and definition of "true ecological restoration" and achieving goals of restoration and maintenance required a sustained forest products industry.

Containment

At the same time participants developed practices of collaboration and forged connections around problems and goals, certain people, practices, and topics were actively or passively excluded. While NPFP members talked about getting "everyone at the table", there were limits to who was involved and what conversations were deemed appropriate. Practices of containment describe how such boundaries were constructed and justified. Within collaboration scholarship, containment is often ignored or understood in a negative light as an obstacle to participation or as capture of a process by powerful interests who control the agenda. That is, issues of containment are understood as

evidence that a process was not "truly" collaborative. Here, containment is not necessarily negative and is in part the flipside of forging alignments – creating a group with certain practices and goals precludes creating a different sort of group with differing practices and goals. How containment is justified is thus critical, and in the case of the NPFP, the question of what alignments should be pursued or not relied on emerging problematizations, which were in turn developed by those who attended meetings.

Containing Participation

Meetings began with informal rules of participation and anyone who attended could participate in discussion. Participation was contained by who could make the time (during the workday), access the place (Asheville, NC), and was part of initial information networks to be notified about the meeting. Participation and conversation were further contained by the proposed purpose of the meeting and potential group – a collaborative initiative to comment on the Nantahala and Pisgah land management plan. In early efforts to broaden the group, significant time was taken to brainstorm "who was missing" and invite representatives. The group expanded, though with continued limitations of time, place, and general purpose.

After a period of outreach and some local community meetings to expand engagement, the focus of time and resources largely narrowed to navigating the complexity of the planning process and tensions among participating organizations and interests. This narrowing reflected the primary problematizations that came to frame the group – that conflict among stakeholders was the root of many current forest management problems and a better forest plan could ease tensions. The primary work of

the group was thus to forge agreements among participants representing the primary tensions. In this vein, some argued that the complexity and sensitive nature of issues meant that meetings should be closed: to genuinely navigate sensitive issues, they needed space where they would not fear being taken out of context, and open meetings could become overrun by people hostile to collaborative paths forward, derailing the NPFP's process. Others argued the contrary, that the group could not be seen as working behind closed doors. No definitive resolution was made, and meetings were technically open, but not widely advertised outside of members and direct invitations.

Significant time and resources were necessary for negotiating agreement, limiting who might be able to fill those roles and prompting formalization of roles and processes of discussion and decision making. Definitions and expectations of membership and processes were formalized in a charter and other documents, limiting full participation to full members and outlining the limits of participation for other designated roles, such as affiliate members, community members, and observers. Full members were required to officially represent an organization of some sort, participate regularly, abide by a code of conduct within and outside of meetings, and affiliate with one of the seven interest areas. Such formalization was part of forging alignments among members and simultaneously contained conversation to a specific set of actors on a specific set of topics through a specific set of processes and norms.

Members regularly expressed concerns about new members potentially joining the group. During early meetings, there was general agreement on expanding participation and inviting more people to represent broader sets of interests. However, some participants were concerned about what sorts of people may try to join. For

example, some argued against inviting representatives of county commissions to "keep the politics out of it." Non-elected county officials were deemed to be acceptable, but even so some participants were wary when a representative from a rural county sought membership. As the NPFP membership coalesced and progressed in creating agreements, tension grew between staying open to all interests and fear of additional voices as potentially undermining progress or creating new roadblocks. On one hand, members argued for the need to stay open to new people in deference to their narrative of openness and inviting everyone at the table. On the other hand, other members saw the potential for hard-won progress and agreements to be endangered by new perspectives, problems, and considerations. To develop recommendations meant a need to close down the potential for new problematizations. This marked a transition from a period of active invitation of additional people and interests under a generalized conception of collaboration as a solution to a period of stabilized collaborative practices and participants, with concern about new members or intermittently participating members potentially derailing discussions.

Containing Conversation

Further limits pertained to what conversations were prioritized in meetings. With the focus on the forest planning process and a dominant narrative that conflict among stakeholders was a central problem that needed to be solved, the group struggled with concerns that fell outside of those boundaries. For example, many recreation-focused participants spoke of the need for specific trails, parking lots, and other infrastructure. The forest plan did not have mechanisms to directly address such issues but would rather

provide guidance for planning future projects that might then address those specific problems. With the mismatch between desires and what was in the purview of the forest plan, a consistent refrain cut such conversations short as "not plan-scale" or as getting "into the weeds" rather than sticking to the "30,000-foot level." Frustration by some recreation representatives was compounded by the amount of meeting time dedicated to technical conversations around the issues of forest protection and active management. Recreation issues, which were generally less controversial, received less attention in meetings.

Characterization

Initial problematizations influenced how goals were aligned, collaborative structures and practices were formalized, and boundaries were created. The emerging cohesion among members was in part a process of forging new subjectivities, behaviors, and narratives of identity, which I refer to collectively as characterization. In collaboration literature, identities are generally understood as stable, with individuals retaining specific interests and worldviews and change considered in terms of learning. Characterization implies a more fluid understanding of identity formed through interactions. Collaboration is in part the construction of new political identities that shift who is an ally or antagonist and new subjectivities guiding understanding of environmental problems and what strategies are appropriate from confronting them.

Crafting Identity

NPFP participants created a group identity through recurring meetings and formalization of meeting practices. Along with the charter, the group chose the name "Nantahala-Pisgah Forest Partnership," created a logo and website, and reached out to the Forest Service, media, and other external actors as the NPFP. The creation of group products, such as maps and agreements sent to the Forest Service, further cemented the existence of the group. In these various formats, members characterized the NPFP as a collaborative group working on forest planning in fulfillment of the requirements of the 2012 Planning Rule, and as consisting of representatives of a broad set of interests seeking collaborative solutions to difficult and historically contentious issues.

Meetings were a place of members regulating the behaviors and subjectivities of one another, with participants reminding others of agreements on process and behavior as well as extolling the need for everyone to be open to other perspectives, to not jump to conclusions, and to focus on interests rather than narrow positions. Further, participants took on specific identities in meetings. They identified with interests and laid claim to representing those interests, thus contributing to the group's general claim to collaborative breadth. Even as tensions arose among members around areas of conflict, others reaffirmed that this was evidence of the group's breadth.

The identity of the group and its members was not developed in isolation. Rather, characterization of the NPFP was always related to the broader context of forest governance. Collaboration was narrated as a break from the past, and the NPFP was identified with problem solvers committed to the forest willing to devote time and effort to work through hard issues to develop novel collaborative solutions. This was in contrast

to others who perpetuated antagonism that undermined the potential of collaborative, win-win forest governance. The NPFP was thus characterized as the solution relative to the problematization described above. Others, such as some antagonistic stakeholders, the Forest Service, and the media, were often characterized as part of creating polarization and extending problems.

Challenging Identity

Creating identities of and within the NPFP was not without troubles. Participants argued over who was being collaborative and whose behavior or perspectives were inappropriate or undermined the NPFP. An environmental advocate, for example, spoke in an early meeting of their near-religious belief that the Nantahala and Pisgah should be protected from logging. Others reprimanded the speaker, saying that the group was meant to be a broad collaboration including timber interests and such rhetoric would put them off. In another example, a wildlife advocate was presenting to various groups about problems with wilderness designation, which was seen by many as a betrayal of the NPFP's ideals. Throughout the planning process, NPFP members were also at various times quoted in media or held relationships with outside groups in ways that led to contentious conversations and questions of what it meant to uphold norms and principles of the NPFP.

A major challenge to the NPFP's identity and ability to attract and maintain member participation was the existence of alternative collaborative initiatives. An early meeting brought attention to two other collaborative groups formed or forming, prompting confusion. Participants were able to clarify the niche of the NPFP as intending

to be broad and focused on forest planning in contrast with the narrow focus of these other groups on either restoration projects or hunting and fishing. Regardless, the existence of other groups spurred conversations about how to expand and potentially incorporated other emerging initiatives to establish the NPFP as 'the' collaborative forest planning process.

The NPFP was able to attract representatives of a broad range of interests, but some vocal and influential groups distrusted the NPFP and its origin with a conservation and recreation focus. This eventually led to a challenge to the NPFP's identity when the Forest Service sought to "get everyone in the same room" and instigated what some called a "super collaborative" and eventually became the Stakeholders Forum for the Nantahala and Pisgah Forest Plan Revision (SFNP). The establishment of a multi-stakeholder collaborative forest planning effort three years into the planning process, and which was seen as under the aegis of the Forest Service, led to crisis within the NPFP. Meetings at that time were filled with anger at the Forest Service for what many saw as undermining the NPFP, with some seeing this as intentional sabotage, and worry about the future of the group.

Many members participated in both the NPFP and the SFNP and conversations were necessary to clarify how those people would navigate "negotiating in two rooms". Other members were not invited to the SFNP and worried that their voices may be lost, undermining promises of clout through collaboration. Some members quietly disengaged from the NPFP and focused their time and energy towards the Forest Service initiative. The NPFP continued to adapt its identity through this period, often highlighting differences in contrast to the SFNP. Members began to emphasize the group's intention

to continue past forest planning and into implementation, in contrast to the SFNP's explicitly temporary planning focus. The NPFP also increased work outside of planning, such as providing information about broader legislation affecting public lands and coordinating to send letters to congressional delegations concerning such legislation.

As the planning process wore on, NPFP members also emphasized the relationships and trust forged in the NPFP compared to the SFNP, where relationships remained contentious, and how the NPFP's detailed recommendations contrasted with what some spoke of as more generic comments developed by the SFNP. Occasional Forest Service statements that implied a potential continuation of the SFNP past forest planning were met with hostility, as were statements that the SFNP might represent a broader array of interests, which fundamentally challenged the NPFP's identity and characterization of itself.

Knowledge Production and Authorization

NPFP members sought to produce and evaluate solutions to problems of forest management, such as gridlock and limited resources, that were exacerbated by antagonisms among various interests. Such a task required knowledge – participants needed to develop more concrete understanding of the proposed problems and collaborative solutions and root these in verified knowledge of the forest and its management. The group needed to prove that histories of contention were in fact not fundamental but rather contingent and that the forest could be managed in a collaborative way that could increase capacity and benefit "all interests". In the following, I present

how NPFP members sought to define and share pertinent knowledge and organized to produce knowledge consistent with a collaborative forest.

Identifying Pertinent Information

The problem defined by the NPFP went beyond a technical issue that might be solved through expertise of Forest Service managers. Rather, it required nuanced knowledge not likely to be produced through the normal agency-led planning process. Technical expertise was said to be needed in forest management, but the roots of problems were also said to be multifaceted and required more, such as the specialized and experiential knowledge of stakeholders who knew their values and their areas of the forest best. In addition, the problem of ongoing contention required understanding of what was acceptable to various interests, the nature of tensions with their social and political dimensions, and where currently unknown overlap might exist. Thus, NPFP members welcomed scientific and expert knowledge but also information about values and perspectives of members and those they represented and the politics of those communities. Further, the context of forest planning required knowledge of how the planning process worked, the nature of various plan components, what made a recommendation "usable" to planners, and how plan components played out in implementation in the context of the Forest Service's bureaucracy and mandates.

Sharing information took multiple forms, such as formal presentations about technical issues. Members and non-member technical advisors gave such presentations and answered questions about silviculture, old growth, the forest planning process, early successional habitat, and recreation activities and economies on the national forest.

Similarly, discussion over maps were times for members to give local and experiential context about values or what *really* goes on that might not be captured in official reports. Discussion was also a time for members to provide further context about social and political considerations, though for the most sensitive issues, additional context might be given one-on-one or in small group meetings. Meeting notes and shared materials, such as scientific articles, reports, current news articles, or maps provided references that could be revisited and represented a growing cache of holistic information about the forest and its governance.

Producing Knowledge

Integrating such a wide range of information to produce knowledge of what collaborative, "balanced" forest management might look like was a central challenge of the NPFP. Whereas knowledge of forest ecology might be vetted through scientific institutions of peer review, to create and verify knowledge of what balance meant in a shifting social, ecological, and political context required agreement among broad interests, tying knowledge production directly to the NPFP's identity and characterization of itself. Producing agreements brought together technical, local, legal, and political knowledge provided by members and faced many challenges, such as diversity of expertise, extensive time in meetings, use of various document and mapping tools, new processes and norms, and limited administrative support.

Disagreements identified in full-group meetings begat smaller issue- or place-based meetings and repeated calls for all members to read through and comment on ever-expanding online draft documents between meetings. Tight schedules and overloaded

members meant delays and tensions. Further issues surrounded the holistic nature of agreements, in which agreement on one point, such as objectives for timber harvest acres, were tied to other agreements, such as acres in protective management areas, and what would happen to the whole package of agreements if one part was missing or watered down. The demands on participants' time could be great, particularly those who took on leadership roles or invested in wordsmithing or wrangling diverse pieces into something that might be legible to the Forest Service.

What came from these processes were documents that the NPFP claimed to show the compatibility of interests in contrast to narratives of competition and antagonism. These products became part of the NPFP's narrative and could be pointed to as proof of the efficacy of the group and the truth of the problem and solution members had identified. For example, an important early product that was referred to throughout the planning process was a map produced by the group that showed the overlapping layers of environmental protection priorities and active management priorities. The map revealed that members largely agreed on the protection status of around 85% of the national forest land, with only 15% in contention. Similar maps and tables of agreed upon areas and acres for ecological restoration provided specificity to claims that collaboration was possible.

Institutionalization

The purpose of collaboration was explicitly to change how the Nantahala and Pisgah was managed, primarily through influencing the new forest plan. Thus, the work of creating narratives and recommendations for collaborative governance could not

simply stay among members of NPFP but needed to be exported. Indeed, while participants navigated one another's perspectives, interests, and personalities, they were also explicitly navigating the broader social and political context. Talk about strategy for influence began in early meetings with ideas of how to gain clout and the importance of showing that recommendations came from a broad range of interests. In what follows, I present how NPFP members approached institutionalizing their vision of forest management, outlining the challenges the group faced and how these challenges were navigated.

Institutionalizing the NPFP Narrative

A primary challenge to institutionalization was the NPFP's lack of formal authority. The NPFP remained independent of the Forest Service, though the agency was listed as a technical advisor and Forest Service representatives routinely attended meetings. This was understood as in contrast with the Stakeholders Forum for the Nantahala and Pisgah Forest Plan Revision (SFNP), which had been instigated by the Forest Service though facilitated independently by the National Forest Foundation. While Forest Service employees would push back on the implication, many NPFP members saw the SFNP as potentially having a more direct influence on agency thinking in the plan revision. Without a direct connection to the Forest Service, and with multiple other groups claiming status as collaboratives, discussion of strategy was common. A central topic was how to establish the NPFP's narrative of itself as a broadly representative collaboration that had "done the hard work" of finding consensus on contentious issues,

had developed recommendations that could improve forest governance, and would continue contributing to implementation into the future.

Part of the challenge was navigating the confusion of multiple groups and how these were conflated or characterized by the Forest Service, the media, and other important actors. A communications committee was created to keep track of media stories, respond when needed, develop proactive press releases, and coordinate interviews. A preoccupation of some members was a concern that the media tended to use antagonistic framings to produce headlines, exacerbating conflict and endangering delicate alignments. Specifically, NPFP members were wary of the group being framed as "one of many" and for the existence of other initiatives to be used to undermine or obscure collaborative progress. In addition to reaching out to media, the group sent letters to congressional delegations and other influential actors as part of their effort to support issues on which interests aligned and spread knowledge of the NPFP itself.

Plan Recommendations

Recommendations were the primary mode in which the NPFP sought to influence the forest plan and thus institutionalize its vision of collaborative forest management. The work of creating consensus recommendations that might influence the forest plan consumed much of the NPFP's time and effort and were sites of disagreement about strategy. A primary tension was between the strategy of pushing the Forest Service towards potentially more ideal categories and ways of thinking verses using existing agency categories and thinking to increase the chance that ideas would be incorporated into the plan. To a large extent, members took care to organize recommendations

according to forest planning components to make them as useable as possible. However, there was debate around what recommendations were mostly likely to contribute to institutionalizing identified alignments among members, both in terms of the content of the recommendation and perceptions of whether the Forest Service would take up the specific ideas, particularly if they did not conform to tested models.

For example, there was debate over recommending that the Forest Service include an ecological restoration management area (MA). NPFP members created the ecological restoration MA to find alignment around areas where some members wanted to see active management and others wanted to see protection of sensitive or special areas. This MA could provide both through specific guidance for active management. However, at the time that NPFP was developing its recommendations, the Forest Service had a set of management area categories it had developed that had no equivalent to the ecological restoration MA. Some NPFP members thought it best to push the agency to accept this new MA while others thought that it would be best to work with Forest Service categories to enhance the potential for uptake. The former thought only the restoration MA would be likely to lead to the desired management while the latter looked to pragmatism of navigating the planning process.

The challenge of institutionalization was not simply about finding the alignments, but also finding the plan language that might lead to the sort of management envisioned and would end up in the forest plan. Questions revolved around tradeoffs of what might be pragmatic in engaging the Forest Service and whether concessions of pragmatism would undermine the underlying vision when the plan was implemented. Many NPFP members feared that a forest plan that drifted too far from the group's recommendations

or cherry-picked bits and pieces would lead to no real change and drive the various interests apart.

Dangers of Institutionalization

Seeking to institutionalize the NPFP's vision was a struggle, but it also included dangers. Primarily, collaboration was not understood as positive by everyone, and some saw collaboration as working with an enemy. For example, a wildlife advocate who participated in both the NPFP and FWCC received pushback from constituents after being seen as agreeing to too many proposals from environmental advocates. More dramatically, an environmental advocate in the NPFP spearheaded an initiative to find alignment between wilderness advocates and mountain biking advocates. Mountain bikes were not allowed in designated wilderness areas, leading to conflict, but a group tangential to the NPFP crafted an agreement with mutual support for wilderness and ensuring adequate expansion of potential mountain biking trails in an area of growing demand. Those involved hailed this as an unprecedented achievement. However, pushback on this agreement took multiple forms, including from members of the SFNP who thought this agreement undermined collaboration within that group. More importantly, some environmental advocates not part of the agreement or the NPFP saw the agreement as conceding wilderness they wanted to see designated as such. This pushback from well-connected advocates eventually led to the firing of the environmental advocate who had led the initiative.

Re-narration

The work of creating and sustaining the NPFP was never complete as the group and the context which it navigated evolved. NPFP members were faced with a changing set of circumstances as planning timelines changed, individuals joined or left with their perspectives and political alliances, outside groups formed and challenged NPFP narratives, administrations changed, Forest Service employees turned over, and the agency developed draft plan materials that coincided or contradicted NPFP recommendations. Through this, work had to be done to create and sustain alignments among members and maintain momentum in the face of setbacks and continued tensions. I refer to this work of continued adaptation and incorporation of new information and events as re-narration.

Some examples of re-narration are embedded in the sections above, such as the work needed to adapt narratives to legitimize the NPFP in the face of other groups and especially the formation of the SFNP. Likewise, the careful narration balancing openness to all interests with boundaries to protect fragile agreements. Other points of re-narration came about with the development of a set of recommendations in 2017 after an arduous consensus process. The triumph was dampened by signing statements in which a few member organizations added notes to the final product distancing themselves from certain recommendations around wilderness designations. For wilderness advocates, this undermined the integrated nature of the recommendations and the balance they represented, sparking additional signing statements around issues of active management and timber harvest. Accusations of undermining collaboration were leveled, and it took careful work to sustain the narrative of the recommendations as an achievement and the

signing statements as not a fundamental flaw for the NPFP but part of navigating forest politics in a way that moved toward a shared vision.

Conclusion

Analyzing the NPFP as a governance project drew attention to the problematizations and narratives that underlay the emergence of the NPFP's form of collaboration and the ways in which members sought to influence management of the Nantahala and Pisgah. Problems and solutions were not simply discovered through a process of dialogue and learning, but rather process was developed in part through members' negotiation of what the problem was and what sorts of processes were appropriate for addressing it. The emerging narratives of the group shaped collaborative process, including who participated or not, the knowledge shared and produced, and the political identities formed through engagement within meetings and attempts to institutionalize agreements.

I suggest all collaborative efforts may be productively considered through the lens of situated governance projects. For collaboration researchers, such an approach helps to explore how collaboration is embedded within broader contexts of governance while also maintaining focus on the individuals navigating those contexts through collaborative efforts. In addition, governance projects provide a lens from which to view the limits and tradeoffs of collaboration, which must be organized and contained around some narrative and network of people, as well as the opportunities of such work in the form of novel political identities and narratives that may counter those that currently shape governance. For practitioners, the seven practices provide distinct items to consider in pursuing

collaborative efforts in addition to common categories such as trust, legitimacy, and networks. Further, the practices make clear that process design does not precede or exist apart from narrative building, which may be considered reflexively to better understand what narratives and framings come to drive initiatives.

References

Abrams, Jesse. 2019. "The emergence of network governance in US National Forest Administration: Causal factors and propositions for future research." *Forest Policy and Economics* 106:101977.

Ansell, Chris, and Alison Gash. 2008. "Collaborative governance in theory and practice." *Journal of public administration research and theory* 18 (4):543-571.

Armitage, Derek. 2005. "Adaptive capacity and community-based natural resource management." *Environmental management* 35 (6):703-715.

Bodin, Örjan. 2017. "Collaborative environmental governance: Achieving collective action in social-ecological systems." *Science* 357 (6352):eaan1114.

Bouwen, Rene, and Tharsi Taillieu. 2004. "Multi-party collaboration as social learning for interdependence: developing relational knowing for sustainable natural resource management." *Journal of Community & Applied Social Psychology* 14 (3):137-153.

Brisbois, Marie Claire, and Rob C de Loë. 2016. "Power in collaborative approaches to governance for water: A systematic review." *Society & Natural Resources* 29 (7):775-790.

Caves, Jeremy K, Gitanjali S Bodner, Karen Simms, Larry A Fisher, and Tahnee Robertson. 2013. "Integrating collaboration, adaptive management, and scenario-planning: experiences at Las Cienegas National Conservation Area." *Ecology and Society* 18 (3):43.

Cheng, Antony S. 2006. "Build it and they will come? Mandating collaboration in public lands planning and management." *Natural Resources Journal* 46 (4):841-858.

Conley, Alexander, and Margaret A Moote. 2003. "Evaluating collaborative natural resourcemanagement." *Society &Natural Resources* 16 (5):371-386.

Cundill, G., and R. Rodela. 2012. "A review of assertions about the processes and outcomes of social learning in natural resource management." *Journal of Environmental Management* 113:7-14. doi: DOI 10.1016/j.jenvman.2012.08.021.

Daniels, Steven E, Gregg B Walker, and Jens Emborg. 2012. "The unifying negotiation framework: A model of policy discourse." *Conflict Resolution Quarterly* 30 (1):3-31.

Emerson, Kirk, and Tina Nabatchi. 2015. *Collaborative governance regimes*: Georgetown University Press.

Goldstein, Bruce Evan, Anne Taufen Wessells, Raul Lejano, and William Butler. 2013. "Narrating resilience: Transforming urban systems through collaborative storytelling." *Urban Studies*:0042098013505653.

Hajer, Maarten A. 1995. *The politics of environmental discourse: ecological modernization and the policy process*: Clarendon Press Oxford.

Hajer, Maarten, and Wytske Versteeg. 2005. "A decade of discourse analysis of environmental politics: achievements, challenges, perspectives." *Journal of environmental policy & planning* 7 (3):175-184.

Innes, Judith E, and David E Booher. 1999. "Consensus building and complex adaptive systems: A framework for evaluating collaborative planning." *Journal of the American planning association* 65 (4):412-423.

Jenkins, Clinton N, Kyle S Van Houtan, Stuart L Pimm, and Joseph O Sexton. 2015. "US protected lands mismatch biodiversity priorities." *Proceedings of the National Academy of Sciences*:201418034.

Johnson, Christopher, and David Govatski. 2013. *Forests for the People: The Story of America's Eastern National Forests*: Island Press.

Leach, Melissa, Ian Scoones, and Andy Stirling. 2010. *Dynamic sustainabilities: technology, environment, social justice*: Earthscan.

Lejano, Raul, Mrill Ingram, and Helen Ingram. 2013. *The power of narrative in environmental networks*: MIT Press.

Lemos, Maria Carmen, and Arun Agrawal. 2006. "Environmental governance." *Annu. Rev. Environ. Resour.* 31:297-325.

McElwee, Pamela D. 2016. *Forests are gold: Trees, people, and environmental rule in Vietnam*: University of Washington Press.

Miles, Matthew B, A Michael Huberman, and Johnny Saldana. 2014. "Qualitative data analysis: A methods sourcebook."

Miller, Char, and James G Lewis. 2018. "Lands Worth Saving: The Weeks Act of 1911, the National Forests, and the Enduring Value of Public Investment."

Murray Li, Tania. 2007. "Practices of assemblage and community forest management." *Economy and society* 36 (2):263-293.

Newfont, Kathryn. 2012. *Blue Ridge commons : environmental activism and forest history in western North Carolina*, *Environmental history and the American South*. Athens: University of Georgia Press.

Olsson, Per, Carl Folke, and Thomas Hahn. 2004. "Social-ecological transformation for ecosystem management: the development of adaptive co-management of a wetland landscape in southern Sweden." *Ecology and Society* 9 (4):2.

Olsson, Per, Lance H Gunderson, Steve R Carpenter, Paul Ryan, Louis Lebel, Carl Folke, and Crawford S Holling. 2006. "Shooting the rapids: navigating transitions to adaptive governance of social-ecological systems." *Ecology and society* 11 (1):18.

Pickering, John, R Kays, A Meier, S Andrew, and R Yatskievych. 2003. "The Appalachians." *Wilderness Earth's Last Wild Places. Conservation International, Washington, DC*.

Plummer, Ryan, and John FitzGibbon. 2006. "People matter: The importance of social capital in the co-management of natural resources." Natural Resources Forum.

Purdy, Jill M. 2012. "A framework for assessing power in collaborative governance processes." *Public administration review* 72 (3):409-417.

Schon, Donald A, and Martin Rein. 1994. *Frame reflection: Toward the resolution of intractable policy controversies*: Basic Books.

Scott, James C. 1998. *Seeing like a state: How certain schemes to improve the human condition have failed*: Yale University Press.

Singleton, Sara. 2000. "Co-operation or capture? The paradox of co-management and community participation in natural resource management and environmental policy-making." *Environmental Politics* 9 (2):1-21.

Susskind, L., and M. van Maasakkers. 2012. "Building consensus for sustainable development." *Sustainable Development Drivers: The Role of Leadership in Government Business and Ngo Performance*:285-302.

Thomson, Ann Marie, James L Perry, and Theodore K Miller. 2008. "Linking collaboration processes and outcomes: Foundations for advancing empirical theory." *Big ideas in collaborative public management*:97-120.

Tsing, Anna Lowenhaupt. 2011. *Friction: An ethnography of global connection*: Princeton University Press.

USFS. 1994. Land and Resource Management Plan Amendment 5. edited by Department of Agriculture. Asheville, NC: Forest Service, Southern Region.

USFS. 2012a. Forest Service Kicks Off Revision of Nantahala-Pisgah Management Plan. edited by USDA Forest Service. Asheville, N.C.

USFS. 2012b. National Forest System Land Management Planning. edited by Forest Service Department of Agriculture: Federal Register.

USFS. 2014. Nantahala and Pisgah National Forests Assessment. edited by USDA. Asheville, NC.

MAXQDA. VERBI Software, Berlin, Germany.

Walker, Peter A, and Patrick T Hurley. 2004. "Collaboration derailed: The politics of "community-based" resource management in Nevada County." *Society and Natural Resources* 17 (8):735-751.

Wondolleck, Julia M. 2013. *Public lands conflict and resolution: Managing national forest disputes*: Springer Science & Business Media.

Wondolleck, Julia M, and Steven Lewis Yaffee. 2000. *Making collaboration work: Lessons from innovation in natural resource managment*: Island Press.

CHAPTER 4

CONTENTIOUS FOREST PLANNING UNDER SOCIAL AND ECOLOGICAL UNCERTAINTY

Introduction

Collaborative governance of multiple-use landscapes is often challenged by conflict among stakeholders. Within management contexts, explanations of contention frequently focus on issues of environmental uncertainty, trust among participants, and diverging interests, values, cultural ties, and worldviews (Farrell 2015, Killingsworth and Palmer 2012, Nesbitt and Weiner 2001, Balint et al. 2011, Brogden and Greenberg 2003, Carpenter and Kennedy 1988). Such accounts share an assumption that social actors are separate from (and in control of) nature (Mansfield et al. 2015). Uncertainty specifically is often considered in a technical sense that can be addressed through further information gathering, modeling, or adaptive management techniques (Dewulf and Biesbroek 2018, Jensen and Wu 2016). However, uncertainty cannot be addressed in such a linear manner when it takes forms in which social, political, and ecological considerations are entangled (Scoones and Stirling 2020). I contribute to understanding social-ecological uncertainty and its role in stakeholder conflict by bringing to bear insights from more-than-human scholarship.

Multiple disciplines have questioned the separation of the social and natural and demonstrated the importance of examining a wide set of human and nonhuman agents (e.g. Latour 2005, Pickering 2009, Davis and Zanotti 2014). A key theme of these

accounts is the surprise at the unintended consequences of management activities that is consistently delivered by a variety of actors. Such surprise is succinctly captured in Tsing's (2015) concept of unintentional design, which describes landscapes as formed through "the overlapping world-making activities of many agents, human and nonhuman," none of which wholly determine resulting patterns. I focus on uncertainty rooted in this possibility of surprise produced by the many actors shaping landscapes.

This study explores uncertainty in stakeholder collaboration and conflict in a forest planning process for the Nantahala and Pisgah National Forests. The U.S. Forest Service began a revision of the Nantahala and Pisgah land management plan in 2012 which engaged individuals associated with environmental, hunting, forest products, recreation, and other communities. While contention was sparked around many issues, conflict over timber harvest and forest protection occupied large portions of discourse within meetings, media, and public comments submitted to the Forest Service. Collaborative efforts emerged to work through these issues but did not end controversy. Ecological uncertainty, participant distrust, and differing values and worldviews were part of continued contention but did not fully explain controversy where collaborative efforts identified potential alignment among participants' visions for the forest. I investigate stakeholders' narratives and characterizations of humans and nonhumans and ask what role these actors played in driving uncertainty and ongoing conflict.

In the following, I first situate my approach in literature of stakeholder conflict, uncertainty, and more-than-human agency. I then introduce the context of conflict and collaboration in the Nantahala and Pisgah planning process and my methods for examining stakeholders' characterizations of a variety of human and nonhuman actors.

Finally, I present my findings and discuss what drove unresolved stakeholder controversy. I argue that more complete understanding of the conflict requires understanding stakeholders' experiences with a wide range of agents that participate in shaping the landscape. I further demonstrate the utility of a narrative approach for capturing the social, ecological, and political complexities of uncertainty, insights that are needed to better navigate contention.

Forest Conflict and Uncertainty

Conflict among stakeholders is both a reason for and obstacle to collaborative forms of environmental governance. For example, collaborative management is promoted for U.S. National Forests because of the complexity of management issues, the need of partner capacity to compensate for waning federal investment, and "vetocracy" in which conflicts among stakeholders can lead to management paralysis (Maier and Abrams 2018). At the same time, collaborative efforts can be undercut by ongoing controversy, leading to derailment or paralysis (Walker and Hurley 2004, Gray 2004, Singleton 2002). Explanations of stakeholder conflicts often revolve around environmental uncertainty and relationships among participants and their interests, discourses, values, and cultural ties. These explanations are matched by collaborative approaches that focus on building relationships, dialogue around environmental values and knowledge, and mitigation of power asymmetries in decision making processes (Wondolleck 2013, Wondolleck and Yaffee 2000, Carpenter and Kennedy 1988, Daniels and Walker 2001, Purdy 2012)

Such accounts of stakeholder conflict and collaboration largely view participants as separate from the landscapes they discuss. The focus remains on social actors with the

assumption that the visions and plans produced out of social struggle will be subsequently realized on an external environment (Mansfield et al. 2015, French 2019). However, multiple streams of scholarship have questioned society/nature divides that focus on human agency over passive nonhumans. Instead, analysis is broadened to nonhuman agents, speaking in terms of the dance of agency (Pickering et al. 2009), socionatures (Castree 2001, Mansfield et al. 2015), naturecultures (Haraway 2016), actor networks (Latour 2005, French 2019), and hybrid landscapes (Davis and Zanotti 2014).

Some more-than-human scholarship has investigated environmental controversy, such as how various sides in a conflict seek to enroll humans and nonhumans in their causes (Woods 1998). Others have identified subtle ways that nonhumans participate in conflict, such as French's (2019) account of geologic actors shaping the contours of contention over water resources and infrastructure in Peru. Mansfield et al. (2015) further decenter human actors, explaining conflict over central Appalachian forests as not simply among people with different interests and perspectives but as contention among forest types with their own unique sets of socioecological relationships. Similarly, drawing prominently on the work of Blaser (2010), Brugger et al. (2020) examine intractable controversy over public lands grazing in the American West as entangled in networks or ontologies composed of humans and nonhumans.

I suggest a productive opening to further bring insights of more-than-human agency to understandings of stakeholder conflict through the topic of uncertainty. Within environmental governance literature, there is a bias towards consideration of the biophysical sources of uncertainty, such as lack of knowledge of the biophysical system (epistemic uncertainty), inherent unpredictability of the system (ontological uncertainty),

or multiple frames of understanding the system (ambiguity) (Dewulf and Biesbroek 2018, Jensen and Wu 2016). This bias emphasizes the separation of the social and natural and the agency of humans over a passive environment. This limited conception of uncertainty is reflected in management institutions' continued performance of technocratic control (Scoones and Stirling 2020) and in strategies for addressing uncertainty based on further information gathering, modeling, adaptive management, and mutual learning among stakeholders of their respective environmental values and understandings (Balint et al. 2011, Susskind, Camacho, and Schenk 2012)

However, in open systems of real landscapes, uncertainty goes beyond the biophysical, including uncertainty regarding other social actors and their decisions (strategic uncertainty) and the formal and informal rules of decision making (institutional uncertainty) (Dewulf and Biesbroek 2018). In addition, various sorts of uncertainty may be linked or experienced differently across individuals and groups (Scoones and Stirling 2020). Such uncertainties defy technical measures, modeling, and adaptive management. To better account for these sorts of uncertainty, accounts are needed that engage multiple sources of knowledge, including local knowledge and experiences, to understand interconnections among uncertainties, how they are experienced by actors, and what compounded uncertainties mean for navigating contentious environmental governance issues (Scoones and Stirling 2020).

More-than-human scholarship provides a powerful lens to examine this more complex picture of uncertainty (Mathews 2008). Such work accepts both humans and nonhumans as agents shaping a fundamentally socionatural world. As such, humans and nonhumans influence connected biophysical, social, and political arenas. More-than-

human scholarship further centers contextual social-ecological uncertainties, prominently detailing surprise delivered by a variety of actors, such as mosquitoes (Mitchell 2002), scallops (Callon 1984), and rivers (Pickering et al. 2009), that upend anticipated results of plans and policies within specific contexts. Tsing's (2005) concept of unintentional design encapsulates this sense of uncertainty caused by "the overlapping world-making activities of many agents, human and nonhuman." No actor wholly determines resulting patterns and thus landscapes bely "dreams of mastery" of human control of and removal from nature.

I use the concept of unintentional design to explore grounded, context-specific accounts of uncertainty, looking to stakeholders' understandings of the many agents that shape complex social, ecological, and political landscapes. I specifically investigate stakeholder narratives, which are rooted in knowledge, experiences, and histories and which implicate many characters, both human and nonhuman, in the potential for unintended consequences (Lejano, Ingram, and Ingram 2013). I suggest that such an analysis thus answers calls to engage the multiplicity, complexity, and politics of uncertainty and to seek paths to embrace uncertainty in a world where the illusion of technocratic control is no longer convincing.

Conflict and Collaboration in Nantahala and Pisgah Forest Planning

The 1.1 million acres that currently make up the Nantahala and Pisgah are spread over 18 mountain counties in western North Carolina and are part of the southern Appalachians. The mountains' variety of elevations, aspects, and geologies and lack of glaciation have created a heterogeneous landscape that remains a biodiversity hotspot

(Pickering et al. 2003, Jenkins et al. 2015). The area also holds rich cultural diversity and is home to indigenous communities, generational settler families, and more recent migrants. These residents, as well as visitors, value the Nantahala and Pisgah in diverse ways, such as for biodiversity, timber, recreation, tourism, hunting and fishing, subsistence, wilderness characteristics, water resources, and cultural heritage (Newfont 2012, Yarnell 1998).

The richness of the Nantahala and Pisgah and diverse demands on the land have led to contention in forest planning. In the 1980s, national movements questioned a growing federal timber program and pushed the Forest Service to include further public input in decision making that was previously conducted wholly by agency foresters. These national trends manifested in western North Carolina during the first forest planning process of the Nantahala and Pisgah conducted under a then-new national forest planning rule (Newfont 2012). Planning sparked local movements, protests, and litigation among environmental organizations, timber representatives, hunters, and other local residents concerned with access to a forest commons. The final plan was heavily amended in 1994 in response to ongoing protest and objections to clear cutting.

Over the following decades, timber harvest dropped precipitously on the Nantahala and Pisgah in part due to plan directives (USFS 2014). Diminished Forest Service funding also impacted harvest along with abilities to maintain infrastructure during a time when recreational use soared. A strong public response to the forest plan revision process that began in 2012 was based in these and other changes, with people of diverse interests and perspectives unhappy with the state of the forest and its management. Participants in the plan revision noted large backlogs on road and trail

maintenance, a lack of recreation strategy, limited timber harvest that did not meet the needs of disturbance-reliant species and the local forest products industry, and continued timber projects that compromised sensitive ecological areas. These concerns about forest management drove conflict over the planning process in media, meetings, and public comments.

Contours of Contention and Collaborative Efforts

Much of the contention surrounding the forest plan revision revolved around timber harvest and protecting forests, a conflict reproduced on national forest lands across the country. Debate centered on how much timber ought to be harvested, what lands should be available for harvest or more protected from harvest activities, and what standards should be in place to guide timber harvest planning and implementation. Primary poles of this debate included a) environmental advocates concerned with ongoing destruction of ecologically valuable areas through what they saw as ill-conceived timber harvests, b) hunting and wildlife advocates concerned with lack of timber harvest to create needed early successional habitat, c) non-consumptive recreation advocates concerned with maintaining a variety of forested and wild recreation settings, and d) forest products advocates concerned with the lack of timber harvest and the use of renewable resources to sustain local livelihoods.

Various stakeholders thus desired swift action in a new forest plan, either to protect and restore ecologically important areas and recreational experiences tied to old growth and interior forest or to increase timber management to balance age classes and structural conditions within the national forest for wildlife and support an industry central

to the identity of many in the region. The truth and urgency of these needs were clear to individuals from science, history, their communities, and their personal experiences.

Multiple collaborative efforts emerged to work through forest planning conflict. The Nantahala-Pisgah Forest Partnership (NPFP) was citizen-led and began with the start of the forest planning process in 2012. The group came to include participation of many historically antagonistic interests, such as environmental, forest products, and hunting advocates. However, some key stakeholders mistrusted the NPFP process, which began with significant investment by conservation organizations. Notably, some wildlife and hunting advocates positioned the preexisting Fish and Wildlife Conservation Council (FWCC) as a collaboration of wildlife, hunting, and fishing stakeholders and rural residents. In part as a response to these fractures, the Forest Service initiated the Stakeholders Forum for the Nantahala and Pisgah Forest Plan Revision (SFNP), which brought together many of the stakeholders involved with the NPFP as well as members of the FWCC and select others. Each of the three groups continued their work through the planning process, sharing participants but remaining distinct and at times antagonistic.

The NPFP and SFNP were the primary venues where collaborative efforts confronted tensions among stakeholders. Both groups had professional facilitation and met for day-long meetings when active (the SFNP began later and was active only during specific parts of the plan revision, while the NPFP met through most of the process). Both groups improved relationships among participants and developing some shared understandings. However, the SFNP remained more contentious while the NPFP enjoyed more robust relationships among participants and crafted detailed recommendations for the forest plan.

Within these collaborative efforts, participants shared values, presented data, and discussed potential consensus areas in their visions for the forest. Each group identified areas of alignment among participants' visions, with members often proclaiming the potential for increased timber harvest to coexist with forest protection. Despite potential alignments, members struggled to turn coinciding visions into recommendations for the forest plan. In the SFNP, continued distrust and fundamental disagreements on issues such as wilderness designation explained some of this struggle. However, similar ongoing tensions challenged discussions in the NPFP. With broad acceptance of adaptive management and with relationships developing over time, continued contention over areas of aligned visions did not seem to be fully explained by issues of trust, ecological uncertainty, or diverging interests and values. In the following section, I describe the methods used to uncover what else might contribute to the controversy.

Methods

To investigate continued conflict among stakeholders within the NPFP and SFNP, I focus on how members debated proposed ways to translate broad agreement around timber harvest and forest protection into more specific forest plan language. The forest plan revision process, ongoing at the time of writing, continued throughout the research period. Fieldwork overlapped with multiple episodes of collaborative work related to opportunities for public comment on the planning process and spikes in contention among participants. Data was collected through participant observation of collaborative meetings and semi-structured interviews with participants as part of a broader study centered on collaboration and conflict in the Nantahala and Pisgah forest plan revision

process. Between 2013 to 2018, I made 24 short-term visits lasting 1 to 5 days each to participate in meetings, conduct interviews, and participate in forest-related activities. I conducted an additional ten months of fieldwork in 2018.

Data used in this analysis include fieldnotes from 22 NPFP and 12 SFNP meetings and collected documents developed through these meetings, such as notes, presentations, proposals, and agreements. I also analyzed semi-structured interviews focused on forest values, threats, and collaborative efforts completed with 74 participants, chosen purposively until saturation to represent key individuals, groups, and interests involved in collaborative efforts, such as representatives of environmental organizations, counties, recreation groups, hunters, and the forest products industry. I organized transcribed interviews, fieldnotes, and other documentation chronologically in MaxQDA (VERBI 2018).

I began analysis with holistic coding (Miles, Huberman, and Saldana 2014) to identify content of meetings and interviews that included plan proposals for timber harvest or forest protection and reactions of acceptance or continued contention. Proposals consisted of ideas, frameworks, map boundaries of management areas (MAs), or specific language presented by an individual or interest group to others in the NPFP and/or SFNP for consideration as a consensus forest plan component. A proposal could be broad, such as a general proposal to pair support of further wilderness areas with support for higher timber harvest numbers, or specific, such as numbers of acres for timber harvest objectives or specific language for standards to guide timber harvest. Reactions of acceptance or continued contention occurred in meeting conversations about

the proposals, in comments on proposal documents, and in later conversations and interviews referencing the proposal.

I used narrative coding to analyze how stakeholders promoted and debated proposals (Lejano, Ingram, and Ingram 2013). In addition to describing stakeholder values and interests, narratives explained why individuals believed that a proposal would or would not adequately balance timber harvest and forest protection. I specifically identified the human and nonhuman characters and the roles they played in shaping these possible intended and unintended outcomes. Characters included all nouns that were narrated as influencing or influenced by the landscape and its management, such as soils, endangered species, county commissioners, Forest Service employees, trees, fire, and specific policies and regulations. In the next section, I present the narratives and central characters that dominated debate over proposals.

Findings

NPFP and SFNP members' narratives revealed broad contestation over the future of the forest rooted in differing values, interests, local and scientific knowledge, histories, worldviews, and spatial and temporal scales of focus. However, within these differences, most (but not all) participants agreed on the possibility of balancing timber harvest and forest protection. Stakeholders made a variety of proposals to translate broadly aligned visions of potential balance into specific plan components. Proposals built on shared dissatisfaction with current management and the idea that there was plenty of room in the Nantahala and Pisgah's 1.1 million acres to support increased timber harvest while also protecting ecologically sensitive areas and special recreation contexts. I found two

primary types of proposals: 1) those that sought to achieve balance through reducing friction and 2) those that sought balance through prioritizing flexibility.

Proposals to achieve balance through reducing friction were most often put forward by environmental advocates, though also at times by individuals associated with other interests. Such proposals generally included the placement of areas of environmental concern in management areas that were less likely to see active management, defined as timber harvest [but might include] as well as other direct human interventions such as prescribed fire. Or, advocates proposed stronger protective language for standards and guidelines that would guide active management, such as strict standards for timber harvest near streams. Proponents argued that this sort of strong and unambiguous protection would leave plenty of acres for active management and focus timber projects in less contentious areas that could garner broad support, thus reducing current friction among stakeholders that inhibited management and increasing annual acres harvested to create win-wins.

In contrast, proposals prioritizing flexibility were most often put forward by hunting, wildlife, and forest products advocates. These proposals sought to place more acres into management areas that allowed for active management and timber harvest or came in the form of standards and guidelines that retained greater project-level discretion. Proponents of prioritizing flexibility argued that flexibility did not mean sensitive areas would be harvested or otherwise impacted; rather, site-specific analysis could be used to identify and protect sensitive areas while simultaneously ensuring enough acreage was available to meet timber harvest goals and flexibility of management tools to adapt to changing conditions.

Proposals structured around reducing friction and prioritizing flexibility presented conflicting ways to achieve balance between timber harvest and forest protection, and advocates argued that their preferred path was the one most likely to lead to that balance. The debate revealed two modes of discussion about the forest plan, one approaching the plan-as-vision for an external landscape and one approaching the plan-as-actor internal to a forest shaped by many agents. Stakeholders worked through differing values, interests, and worldviews to find alignments among their visions for protection and timber harvest, but collaborative progress around the plan-as-vision was regularly upended when participants spoke of the plan-as-actor. Discussion of the plan-as-vision assumed stable social control of an external landscape, requiring that stakeholders work on consensus and compromise over what they wanted to see. The plan-as-actor in contrast was not a stable entity with linear, predictable consequences but rather more elusive with implications dependent on interactions with a host of other human and nonhuman actors. The plan-as-actor might be crafted to achieve a common vision but could as easily be a hindrance as a help to achieving that vision.

In the following, I present reducing friction and prioritizing flexibility narratives and the various human and nonhuman agents implicated in creating certainty and uncertainty in achieving visions of balanced outcomes. Narratives focused on two scales – the actors that shaped consequences on specific sites, largely around individual timber harvest projects, and those that shaped broader landscape patterns. I first present narratives and actors related to the project scale and then move on to the landscape scale.

Project-Scale Actors

Narratives for reducing friction explained poor consequences of specific projects as entangled with weaknesses in the amended 1994 forest plan. As one environmental advocate explained, ambiguities in the forest plan provided poor guidance for district rangers in charge of projects, leading to poorly designed timber harvests that needlessly pit interests against one another and failed to adequately protect ecological integrity or produce timber harvest for early successional habitat or forest products. The 1994 plan left many ecologically sensitive, old growth, and unfragmented areas in management areas that allowed for timber harvest. Furthermore, the language of objectives, standards, and guidelines gave discretion to district rangers and Forest Service employees developing active management projects, including timber harvest. The culture and incentives of the Forest Service in turn led district rangers to prioritize timber harvest, leaving ecological priorities hidden through project design and analyses.

Forest plan maps and language thus intersected with Forest Service employees and ecological priorities to begin a cycle of negative consequences in both project planning and implementation. Planned projects that insufficiently considered threatened species, special ecological communities, and unfragmented areas brought environmental advocates into the process based on NEPA legislation requiring periods of public comment on Forest Service projects. Environmental pushback could extend planning timelines, consume resources, and reduce acreages of timber harvest, creating tension with hunters, forest products advocates, and county residents and commissions who desired more harvest and active management projects.

Even if some sensitive areas were removed from a project because of environmental pushback, timber harvest might still occur in contested forest stands. In project implementation, loggers and others in charge of timber harvest and treatments might fail to follow best practices or other guidelines. Follow-up management might not appear or might be insufficient for the site or for the roads built for access. More prominent were the nonhumans that contributed to unintended and negative consequences of projects. There were soils that might be more erodible than anticipated and lead to degradation and water impacts, or timber harvest could be a vector for non-native invasive species despite precautions. Treatments meant to restore a site might backfire, such as desired oak regeneration overwhelmed by tulip poplar. Or buffers to protect sensitive species or ecological communities might turn out to be insufficient based on unknown species' needs or cumulative effects of multiple projects.

These narratives drew on narrators' experiences within planning processes and with monitoring the consequences of implementation. Narrators traced a line from the current plan maps and language through the many actors that shaped unintended consequences of conflict, loss of time and resources, less active management, and degradation. As a central actor in the narrative, a new plan could address these issues through specific guidance to avoid controversial projects.

Within the prioritizing flexibility narrative, the forest plan was not as prominent an actor in creating issues at the project level. The unintended consequences of timber harvest caused by site-specific human, soil, and vegetation actors, which were central to the reducing friction narratives, were not necessarily seen as systematic problems. Narrators of prioritizing flexibility framed these as occasional issues, focusing instead on

evolving sylvicultural practices that minimized impacts and more reliably restored intended tree species to a forest stand. Indeed, nonhuman actors were instead implicated in creating negative landscape consequences in the absence of timber harvest or other active management at the site-specific level, such as the encroachment of trees into early successional habitat needed by the declining populations of wildlife or the growth of maples and white pine into areas once dominated by oaks characteristic to the site and which provided needed food for wildlife populations.

With the danger posed by nonhuman actors in the absence of active management and timber harvest, narrators prioritizing flexibility also expressed concern about the many actors that could delay project planning or reduce timber harvest acres. The many phases of project planning and strict analysis requirements were seen by some as burdensome, requiring too much time and too many resources. This situation that could be exacerbated by environmental pushback, some of which could be motivated by NIMBY sentiments of recent amenity migrants concerned with scenic views and not the ecological need for active management and timber harvest. These narrators questioned to what extent very specific guidance would result in less friction or might rather create more friction for potentially good and needed projects.

Example: Planning for Restoration

Restoration was identified as a fruitful area of alignment, reflecting the dissatisfaction of many participants with the current condition of the forest. Indeed, the need for restoration implicated the actions of both humans and nonhumans. Histories of clear cutting, fire suppression, planting, and other management activities intersected with

eroding soils, nonnative species, and pioneering native plants to create areas categorized as uncharacteristic vegetation that did not match models of the natural range of variation of forest types based on elevation, soil, aspect, natural disturbances, etc. For example, some sites that likely held diverse hardwoods prior to being logged were now white pines plantations created by Civilian Conservation Corps members. In other areas, quick-growing tulip poplars outcompeted other trees in freshly cut stands or red maples and other plants slowly remade forests in the absence of fire regimes. In these areas, human disturbance in the form of timber harvest and other active management were thought to enable the alignment of interests.

With broad agreement around the need for significant restoration work in the Nantahala and Pisgah, restoration was seen to provide common ground with the potential to produce broadly supported management during the expected life of the new plan. Buoyed by the narrative of reducing friction, some participants proposed taking advantage of this shared vision of restoration through an ecological restoration management area (MA). Areas where some stakeholders wanted to see strong protections for sensitive ecologies and others wanted to see more active management could be placed in the restoration MA, which could provide strong guidance for projects to ensure balance and broad support. Others used prioritizing flexibility narratives to advocate an alternative proposal in which these same areas would remain within a broader active management MA and written standards and guidelines would be used to ensure site-specific project analyses would balance protection and flexibility in changing contexts.

For those advocating reducing friction, a mapped restoration MA was preferred. Both the MA and the standards and guidelines could lead to balanced restoration projects,

but for those advocating reduced friction, a mapped restoration MA was perceived as harder for future district rangers to ignore. With standards and guidelines, district rangers would have more room for interpretation, and environmental advocates cited experiences of projects described as restoration not being "true restoration" and leading to destruction of environmental priorities. Thus, standards and guidelines, district rangers, and hidden or unanticipated environmental priorities and biophysical actors could result in degradation.

For some wildlife and forest products advocates, there was concern that the restoration MA would reduce rather than facilitate restoration. As much as many environmental advocates distrusted how future district rangers would interpret restoration language as they implemented projects, some hunters, wildlife advocates, and forest products advocates distrusted how an ecological restoration MA might be interpreted by future actors that desired to stop timber harvest for any reason. The restoration MA could become too constraining and inhibit needed restoration work in the context of ongoing and unknown future environmental change.

The debate hinged on how specific sorts of plan components might lead to unintended consequences. Whereas maps might hamstring management, standards and guidelines might provide the flexibility to do work in a changing context. Alternatively, standards and guidelines might lead to degradation and ongoing conflict while maps could reduce friction and increase the amount of management done. Either route, maps of MAs or standards and guides, might result in the same management that balanced timber harvest and forest protection in restoration activities, yet the choice remained a sticking

point with the potential for that balance to be upended in practices shaped by many actors.

Landscape Implications

Concerns for landscape-scale patterns included structural balance (the mosaic of early successional habitat, middle aged forest, and old growth), ecozones (the various forest communities associated with specific soils, elevations, and aspects), and the patterns of interior forest and edge habitat. Values and interests diverged among stakeholders regarding their primary concerns around these issues, but as above, most participants came to discuss the possibility of alignment in which timber harvest and forest protection could be balanced. As in the example of site-specific restoration, many believed there was enough land, and enough needed restoration, to sustain broadly supported timber harvest to meet all interests and create desired patterns while protecting environmental priorities.

However, as with site-level restoration, participants noted many human and nonhuman actors that would shape landscape-scale patterns, and which created uncertainty and diverging types of proposed plan components to reliably achieve a balance. The actors shaping individual projects – leading to degradation of environmental priorities and the inhibition of timber harvest for active management priorities – were part of this picture but took on additional meaning as impacts accumulated over the landscape and longer periods of time.

Landscape Patterns and Reducing Friction

For environmental advocates, multiple controversial projects could add up to more than the sum of their parts, impacting not just individual sites but also potentially severing connectivity, fragmenting interior forest areas, and delaying the development of desired old growth forest. Over decades, projects could slowly erode these values, or, in the case of old growth, reset centuries-long clocks required for forest stands to develop old growth characteristics that included old trees, snags, coarse woody debris, and canopy gaps. Trees and their complex associations needed to be given time to do their work to create old growth, with a limited role for human active management. Further, as old growth formed, it would be dynamic and naturally contribute to structural balance as aging trees succumbed to disturbances such as ice and wind, leaving canopy gaps in addition to more expansive areas created by larger disturbances across the landscape. Over long timelines, strong protection of the reduced friction model was needed for these environmental priorities and would also contribute to balanced forest structure.

For example, an environmental advocate reacted strongly against a proposal to use backcountry MAs as a compromise between desires for active management and forest protection in the form of designated wilderness areas. Backcountry MAs allowed limited active management and could be reevaluated in a future planning cycle, providing protection with some flexibility. Wilderness, in contrast, allowed the least amount of active management and was a permanent federal designation once approved by congress. For some environmental advocates, temporary protection of backcountry would not suffice for specific areas of concern given uncertainties of future planning contexts which

could undo backcountry designation and lead to fragmentation or the resetting of old growth and potential old growth stands.

Similar proposals to place more land into more flexibly managed MAs were likewise questioned. There were continuing concerns about how discretion would be used and the potential for future economic and policy changes to further incentivize timber harvest with insufficient consideration of environmental priorities. For example, after the 2016 election, environmental advocates from regional and national organizations became busy pushing against proposed legislation and executive actions. These included proposals for new tools to implement active management and timber harvests on public lands, such as expanded categorical exclusions that allowed the Forest Service to conduct certain sorts of timber projects with fewer review requirements. While some policy tools to increase capacity could be welcomed by environmental advocates, those same tools could become a threat depending on the context.

Landscape Patterns and Prioritizing Flexibility

For many hunting, wildlife, and forest products advocates, the obstruction of individual projects had accumulated to create crises for wildlife species and local mills and loggers. Disruptions of projects encouraged the unmanaged growth of trees, which overtook the limited early successional habitat and open forest conditions that existed, and which needed to be consistently replenished. This was seen to exacerbate imbalance in a forest dominated by middle-aged and aging closed-canopy forest stands. On the fragmented and human-impacted landscape of the Nantahala and Pisgah, natural disturbances such as wildfire, windthrow, and ice, failed to keep up with tree growth or to

create the sorts of habitats needed where they were needed for game and nongame species reliant on ESH and open structural conditions. Human disturbances such as prescribed fire and especially timber harvest were required to make up for decades of unmanaged tree growth that had created a middle-aged, closed canopy forest and led to declines of specific game and non-game wildlife species. Indeed, for these narrators, the whole forest was on a trajectory towards old growth.

These concerns were matched within the forest products industry. Delay or further disruption of timber projects threatened small-scale logging and milling operations that were already closing or struggling, and which relied on both public and private lands. Public lands were viewed as specifically important as private lands were further developed and fragmented by amenity migrants. Individuals pointed to dozens of small mills that had gone out of business in recent areas and warned that without more consistent access to national forest timber more would follow. Further, these could not easily be "turned back on" once closed, endangering the future of active management of any sort. Both wildlife and forest products advocates spoke of decreasing forest health and resiliency in the face of unmanaged tree growth. For example, some pointed to widespread fires in the fall of 2016 that endangered property and lives in western North Carolina and burned parts of Gatlinburg, TN as what might come to pass without active management of dense tree growth and accumulation of fuels. The need for more timber harvest was immediate, with many advocating proposals prioritizing flexibility.

Early in the planning process, a wildlife advocate recounted how a member of an environmental organization proposed supporting more ambitious active management and timber harvest if the wildlife advocate gave support for wilderness and forest protection,

following the reducing friction model. The wildlife advocate refused, saying that wilderness and other protections would become assured as soon as the plan was approved but that early successional habitat (ESH) had to be consistently created throughout the life of the plan to meet the needs of wildlife. The wildlife advocate observed that just because timber harvest was in the plan did not mean that it would occur on the landscape, pointing to the amended 1994 forest plan that allowed for more timber harvest than had occurred in practice.

The concept that more forest protection in the new plan would lead to more timber harvest was thus not convincing to some. Most directly, Forest Service capacity to do projects might remain low and there could be continued pushback against projects. Over the coming decades, pushback could be exacerbated by amenity migrants moving to the area for mountain scenery and recreation opportunities and associated with social and economic changes. Increasing numbers of amenity migrants could mean increasing intolerance of hunting or timber harvest in favor of non-consumptive forest values. Nonhuman actors out on the landscape might also continue to disrupt potential timber harvest and ESH creation. Within those areas allocated for more active management there were nonhuman actors, such as streams, slopes, soils, old growth patches, and rare plant and animal species, which could further restrict timber harvest or spark controversy over projects. Placing larger areas in more flexible management could buffer against some of these issues.

Discussion

Controversy around timber harvest and forest protection was rooted in stakeholders' various interests, values, and worldviews and was complicated by a complex ecological settings and histories of distrust among participants. Through this, collaborative efforts were successful in developing relationships and identifying potential alignments. Not all participants were convinced of such alignments, specifically among some members of the SFNP. However, among those that forged shared visions of potential balance between timber harvest and forest protection, contention persisted in the form of the push and pull between proposals for reducing friction and prioritizing flexibility.

Much of the forest planning process and collaboration around it was framed in terms of the plan-as-vision, with participants asked to discuss their values and interests, learn from and understand one another's understandings of the forest, and seek compromise. Where alignments were identified, controversies did not stop but moved from contention over the values and interests of the plan-as-vision to debate over the nonlinear and uncertain future of the plan-as-actor. Within meetings and proposals, participants articulated the potential roles that specific forest plan components played or might play in creating intended and unintended consequences. Participants regularly pointed to the 1994 forest plan, which proved to many that plan visions do not translate cleanly onto landscapes.

Narratives of reducing friction and prioritizing flexibility revealed local knowledge of the many actors, both human and nonhuman, involved in shaping landscape outcomes. These were based on narrators' lived experiences with the

Nantahala and Pisgah and observations of the complex interactions of soils, trees, wildlife species, Forest Service employees, laws, plans, and others that created landscape patterns and problems. With this host of characters, narratives of the plan-as-actor blurred divisions between the social and ecological, in contrast to discussions of the plan-as-vision that retained the assumption of technocratic control over the forest. Ecological uncertainty that the plan-as-vision might address was entangled with social and political uncertainties that the plan-as-actor participated in rather than controlled.

Social-ecological uncertainty contributed to stakeholders' anxieties and feelings of relative lack of power. In an early meeting of the SNFP, stakeholders of all interests expressed their feelings that they had less power than others. Their narratives suggest that this was not simply about their influence relative to other stakeholders in the forest planning process and the struggle amongst participants to shape the plan-as-vision. Rather, feelings of powerlessness were tied to the larger constellations of human and nonhuman actors arrayed against them and their goals. For example, many hunters saw themselves as underdogs in the face of the many agents that could delay or inhibit timber harvests, amenity migrants who might exacerbate these issues, and continuously growing trees that would not wait for management to catch up. Power was not relegated to social actors but associated with the agency of many other actors - human, nonhuman, social, and ecological.

Stakeholder conflict was thus embedded within contention among a broader set of agents shaping the Nantahala and Pisgah and entangled social, ecological, and political uncertainties. Such uncertainties could not be resolved or managed through means of a technocratic management plan. Indeed, the plan-as-actor meant that the forest plan

participated in ongoing uncertainty and the unpredicted consequences of future assemblages of human and nonhuman actors. Participants often warned each other of potential unintended consequences of one another's proposals – calls for more flexibility might lead to paralysis, calls for stricter protections might lead to lack of resiliency in the face of change, and pushing too far in one direction might lead to dramatic political pendulum swings in the other direction.

For many participants, even their ideal forest plan would not necessarily meet their goals, though it might mitigate potential harm. The pressure on forest plan collaboration was thus not simply to carve out a shared vision amongst stakeholder differences but to develop plan components that could be dependable allies within future unknown contexts. Desires for dependability in plan components prompted competing anxieties over proposals that could theoretically achieve visions of balance but might also threaten values. Promises of restoration, timber harvest, or forest protection in the plan could be upended and stakeholders sought to limit how plan components could unintentionally contribute to negative future impacts. These pressures made finding room for nuance difficult when nuanced language and more detailed plan components might lead to cooption, paralysis, oversights, and forest trajectories that further eroded values. This work pushes against the idea of social control over a passive or external nature and the idea of a plan as a blueprint leading straightforwardly to landscape consequences.

Conclusion

This study contributes a method to understand contextual and interconnected social-ecological uncertainties that drive stakeholder conflict. The narratives of

stakeholders deployed within deliberations drew on place-based experiences that implicated both human and nonhuman actors in processes of unintentional design and surprise, even in a planning process where discourse generally presumed a social-ecological divide. The findings also highlight the plan-as-actor, revealing commonly shared understandings of the limits of technocratic control (Scoones and Stirling 2020). These limits further complicate understandings of uncertainty in planning and decision making, calling to move beyond uncertainty defined in relation to a biophysical system (common in environmental literature) or uncertainty defined in relation to the strategies of other actors and the institutions governing decision making processes (common in policy sciences) (Dewulf and Biesbroek 2018). Rather, the plan-as-actor firmly places the forest plan within ongoing forest change in which agency is not limited to social actors within decision-making processes.

The findings suggest collaborative planning must go beyond formulating shared visions for an external landscape and include broader conversations of how outcomes are produced in an entangled social, political, and ecological landscape. Such work is especially important in a time of rapid change and when the products of social struggle (as recorded in plans, policies, initiatives, or rules) do not necessarily translate into expected outcomes. While working through issues of trust and differing values, interests, and worldviews is critical, discussion must also address the uncertain role of plans in producing landscape consequences as one of a larger constellation of human and nonhuman actors.

The NPFP was less contentious and developed more detailed recommendations than the SFNP in the face of a similar push and pull of narratives. In the context of these

findings, a part of this success may be that the group developed a commitment to continuing beyond forest planning and into implementation of the forest plan. This commitment to implementation was not part of the original mission of the group but evolved in the face of challenging discussions marked by uncertainty of what the final plan might look like and whether plan visions would be translated into intended consequences. This suggests the group adapted to some of the social-ecological uncertainties that a technocratic forest plan-as-vision could not address and which rather required ongoing political work.

References

Balint, Peter J, Ronald E Stewart, Anand Desai, and Lawrence C Walters. 2011. Wicked environmental problems: managing uncertainty and conflict: Island Press.

Blaser, Mario. 2010. *Storytelling globalization from the Chaco and beyond*: Duke University Press.

Brogden, Mette J, and James B Greenberg. 2003. "The Fight for the West: A Political Ecology of Land Use Conflicts." Human Organization 62 (3):289-298.

Brugger, Julie, Mitchel P McClaran, and James E Sprinkle. 2020. "'Storytelling'Natural Resource Conflict on US Public Lands." Ethnos 85 (1):54-78.

Callon, Michel. 1984. "Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay." The Sociological Review 32 (1_suppl):196-233.

Carpenter, Susan L, and WJD Kennedy. 1988. Managing public disputes: A practical guide to handling conflict and reaching agreements: Jossey-Bass San Francisco, CA.

Castree, Noel. 2001. "Socializing nature: Theory, practice, and politics." Social nature: Theory, practice, and politics:1-21.

Daniels, Steven E, and Gregg B Walker. 2001. "Working through environmental conflict: The collaborative learning approach."

Davis, Reade, and Laura Zanotti. 2014. "Introduction: hybrid landscapes: science, conservation, and the production of nature." Anthropological Quarterly 87 (3):601-611.

Dewulf, Art, and Robbert Biesbroek. 2018. "Nine lives of uncertainty in decision-making: strategies for dealing with uncertainty in environmental governance." Policy and Society 37 (4):441-458.

Farrell, Justin. 2015. The Battle for Yellowstone: Morality and the Sacred Roots of Environmental Conflict: Princeton University Press.

French, Adam. 2019. "Webs and flows: socionatural networks and the matter of nature at Peru's Lake Parón." Annals of the American Association of Geographers 109 (1):142-160.

Gray, Barbara. 2004. "Strong opposition: frame-based resistance to collaboration." Journal of Community & Applied Social Psychology 14 (3):166-176.

Haraway, Donna J. 2016. Staying with the trouble: Making kin in the Chthulucene: Duke University Press.

Jenkins, Clinton N, Kyle S Van Houtan, Stuart L Pimm, and Joseph O Sexton. 2015. "US protected lands mismatch biodiversity priorities." Proceedings of the National Academy of Sciences:201418034.

Jensen, Olivia, and Xun Wu. 2016. Embracing uncertainty in policy-making: The case of the water sector. Elsevier.

Killingsworth, M Jimmie, and Jacqueline S Palmer. 2012. Ecospeak: Rhetoric and environmental politics in America: SIU Press.

Latour, Bruno. 2005. "Reassembling the social-an introduction to actor-network-theory." Reassembling the Social-An Introduction to Actor-Network-Theory, by Bruno Latour, pp. 316. Foreword by Bruno Latour. Oxford University Press, Sep 2005. ISBN-10: 0199256047. ISBN-13: 9780199256044 1.

Lejano, Raul, Mrill Ingram, and Helen Ingram. 2013. The power of narrative in environmental networks: MIT Press.

Maier, Carolin, and Jesse B Abrams. 2018. "Navigating social forestry–A street-level perspective on National Forest management in the US Pacific Northwest." Land Use Policy 70:432-441.

Mansfield, Becky, Christine Biermann, Kendra McSweeney, Justine Law, Caleb Gallemore, Leslie Horner, and Darla K Munroe. 2015. "Environmental politics after nature: Conflicting socioecological futures." Annals of the Association of American Geographers 105 (2):284-293.

Mathews, A. S. 2008. "State Making, Knowledge, and Ignorance: Translation and Concealment in Mexican Forestry Institutions." American Anthropologist 110 (4):484-494. doi: DOI 10.1111/j.1548-1433.2008.00080.x.

Miles, Matthew B, A Michael Huberman, and Johnny Saldana. 2014. "Qualitative data analysis: A methods sourcebook."

Mitchell, Timothy. 2002. Rule of experts: Egypt, techno-politics, modernity: Univ of California Press.

Nesbitt, J. T., and D. Weiner. 2001. "Conflicting environmental imaginaries and the politics of nature in Central Appalachia." Geoforum 32 (3):333-349. doi: 10.1016/s0016-7185(00)00047-6.

Newfont, Kathryn. 2012. Blue Ridge commons : environmental activism and forest history in western North Carolina, Environmental history and the American South. Athens: University of Georgia Press.

Pickering, Andrew, Keith Guzik, Barbara Herrnstein Smith, E Roy Weintraub, and Adrian Franklin. 2009. The mangle in practice: Science, society, and becoming: Duke University Press.

Pickering, John, R Kays, A Meier, S Andrew, and R Yatskievych. 2003. "The Appalachians." Wilderness Earth's Last Wild Places. Conservation International, Washington, DC.

Purdy, Jill M. 2012. "A framework for assessing power in collaborative governance processes." Public administration review 72 (3):409-417.

Scoones, Ian, and Andy Stirling. 2020. The politics of uncertainty: Challenges of transformation: Taylor & Francis.

Singleton, Sara. 2002. "Collaborative environmental planning in the American West: the good, the bad and the ugly." Environmental politics 11 (3):54-75.

Susskind, L., A. E. Camacho, and T. Schenk. 2012. "A critical assessment of collaborative adaptive management in practice." Journal of Applied Ecology 49 (1):47-51. doi: DOI 10.1111/j.1365-2664.2011.02070.x.

Tsing, Anna Lowenhaupt. 2015. The mushroom at the end of the world: on the possibility of life in capitalist ruins: Princeton University Press.

USFS. 2014. Nantahala and Pisgah National Forests Assessment. edited by USDA. Asheville, NC.

MAXQDA. VERBI Software, Berlin, Germany.

Walker, Peter A, and Patrick T Hurley. 2004. "Collaboration derailed: The politics of "community-based" resource management in Nevada County." Society and Natural Resources 17 (8):735-751.

Wondolleck, Julia M. 2013. Public lands conflict and resolution: Managing national forest disputes: Springer Science & Business Media.

Wondolleck, Julia M, and Steven Lewis Yaffee. 2000. Making collaboration work: Lessons from innovation in natural resource managment: Island Press.

Woods, Michael. 1998. "Researching rural conflicts: hunting, local politics and actor-networks." Journal of rural studies 14 (3):321-340.

Yarnell, Susan L. 1998. “The southern Appalachians: a history of the landscape.” *General Technical Report SRS-18*. Asheville: U.S. Department of Agriculture, Forest Service, Southern Research Station.

CHAPTER 5

CONCLUSIONS AND INTEGRATIVE CONSERVATION

Conclusions

This research contributed to understanding collaborative approaches to environmental governance in the context of contention and uncertainty. Chapter 1 set the stage of unresolved questions within scholarship of collaborative governance, the study area in the southern Appalachians of western North Carolina, and a controversial national forest planning process with multiple collaborative efforts. Chapter 2 delved into contention that brewed in the forest planning process and specifically around the question of what counted as a collaborative governance. Multiple groups claiming the collaborative mantel emerged and competed within the forest planning process, and analysis revealed that each group defined and enacted collaboration in different ways and individuals defended their versions of collaboration through reference to specific interpretations of what had seemed to be commonly held collaborative ideals. This finding highlighted the multiplicity inherent in a broadly used and underdefined term such as collaboration and the tension between the abstract policy and rhetoric of collaboration and the need to create specific definitions and formations amid potentially diverse understandings.

Further, Chapter 2 established that disagreement over what collaboration ought to be was not only an issue of different perspectives. Instead, how collaboration was defined had political consequences. The institutionalization of collaboration in policy and

common Forest Service rhetoric made claiming (and contesting) the label of collaboration a route towards influence in the forest planning process. Though based on defensible definitions and ideals, part of individuals' use of collaboration discourse was the strategic navigation of the planning process. Because of the tradeoffs inherent in translating abstract "collaboration" into context, no collaborative effort could fulfill all interpretations of what collaboration ought to be and were thus open to critique and a politics of collaboration.

Chapter 3 addressed how individuals created and sustained collaboration among heterogeneous actors in substantive attempts to change environmental governance. Using concepts developed for explaining governance projects at national and international scales, I analyzed the work of individuals navigating forest planning collaborations. The analysis built on established insights of collaboration literature, such as the importance of trust, leadership, and shared visions, but provided additional theoretical purchase by connecting individual's work within collaboration to their negotiation of the broader social, political, and ecological context of uncertainty and power asymmetries. The chapter also highlighted some aspects often overlooked in collaboration literature, such as the role of identity formation, the necessity of containment, and the role of all participants in creating, adapting, and sustaining collaboration. Further, the chapter revealed conflict as not necessarily associated with different interests and values, but with competing narratives of how these interests and values were related.

Chapter 4 delt with the phenomenon of continued contention over issues around which participants in the planning process shared overlapping visions. Established explanations of environmental conflict focus on technical uncertainty, competing interest

and values, and problems of trust, which did not fully explain conflict in this instance. I analyzed participants' narratives of the areas of conflict and drew on more-than-human scholarship to develop understanding of the complex entanglement of many sources of uncertainty – social and ecological, human and nonhuman. Specifically, whereas the forest plan was often talked about as a document in which participants could encode shared visions for future implementation and thus gain certainty, participants understood implementation to be a much more complicated process whose consequences depended on many actors, including future Forest Service employees, trees and their growth, and the forest plan itself with language open to interpretation or even disregard. When plans are understood as themselves actors within social-ecological systems that can contribute to uncertainty, establishing shared visions is important but not sufficient, and conversation must broaden to how landscape outcomes are produced through entangled social, political, and ecological processes and seek additional methods and relationships needed to realize those visions.

Together, Chapters 2 and 3 also contributed to debates of how to define collaboration. Both chapters demonstrated the multiplicity of forms collaboration can take and the substantive consequences of specific definitions and alliances for landscapes and people. Collaboration is a "terrain of debate", and this dissertation asks us to interrogate how collaboration is defined in context, what problems and solutions justify the forms collaboration takes, what sorts of problems or priorities are marginalized, and what assumptions and understandings underly considerations of tradeoffs and what is pragmatic. As a terrain of debate, collaboration holds both conservative and transformative potential, and scholarship of collaborative governance may benefit from

further focus on the substance of the alliances and visions that emerge and how they contest or reproduce dominant discourses and political-economic relationships. Form and substance are entangled, requiring humility and careful consideration of choices in process design. Collaborative environmental governance is thus not a state that is achieved – rather, the practices of assembling collaborative projects never end as individuals continue to identify problems, craft narratives of what governance institutions would better fit the landscape, and navigate shifting alliances and contexts.

While there is no straightforward or neutral way to translate the promises of collaborative governance into practice, it is still a necessary part of navigating present and future challenges. Collaborative efforts are part of creating new knowledge and political identities for collective action, and collaborative discourse contains ideals of equity and diverse perspectives that are important organizing principles for more effective and equitable environmental governance. Further, collaborative governance may provide the only way to navigate some issues, such as the deep social and ecological uncertainties discussed in Chapter 4 that could not be completely addressed outside of continuing relationships. Thus, the hope here is not paralysis of collaboration unmoored from a defined form, but to further understand its tradeoffs, limits, and potential.

The multiple collaborative efforts were often messy and contentious, and the forest planning process extended nearly a decade, which may raise questions about whether collaborative governance and planning are worthwhile endeavors. There is of course no single answer to this question. However, collaboration seemed to many to be the only available option to confront a variety of problems, such as gridlock or "vetocracy" stemming from contention and the limitations to resources for management.

These problems related to the broader history of the Forest Service and the politics of national forest lands in which the once-independent agency with broad discretion to manage lands as it chose came to be embattled amid many demands, eroded legitimacy, and well-organized interests and constituencies with various levers to influence or interrupt decision making (Abrams 2019). In such a context, place-based collaborations have been viewed as one of few options for actors seeking to improve and stabilize management that otherwise might remain paralyzed amid antagonism or shift wildly with changes in federal administrations and their priorities.

In the view developed through this dissertation, collaborative governance is not a unitary thing, but rather a situated reaction to specific problems. In the case of the Nantahala and Pisgah, these problems related to the embattled nature of the Forest Service generally and the specific desires of actors in the Nantahala and Pisgah, such as the agency's desire for legitimacy and other actors' desires for management more likely to meet their visions over time. And, while difficult and intensive, collaboration did seem to reap rewards for many. For example, the NPFP's work did not end contention but did create new alliances and political identities that have influenced the plan revision. In addition, the group has worked to influence public lands related policy and the implementation of projects, shaping not just the plan but the social and political context of implementation such that management might more consistently meet members' visions over time. In the context of future social and ecological uncertainty, those relationships and collaborative identities may be critical for adapting to change while continuing support for members' underlying values.

Considered as a response to problems not adequately addressed by other policy or institutions, collaborative governance becomes a much more limited and directed endeavor than is often described in writing about collaboration divorced from context. I believe this view of situated collaborative efforts helps to better portray the limits and opportunities of collaboration and the place of collaboration in environmental governance. For example, the future of U.S. national forest governance may rely heavily on place-based collaborations, specifically if the issues that drive the potential for gridlock and limited management capacity continue. Broader policy or political change may in turn influence these issues which prominently underlay problematizations that drive current collaborative efforts on national forests. However, new gaps and issues not addressed in policy or institutions may arise, and are indeed likely to arise in complex, dynamic social and ecological systems, and thus spur new problematizations and collaborations.

Importantly, the view of collaboration in terms of problematizations does not speak directly to issues of equitable forest governance. Discourses of collaboration often promise more equitable decision making in the same breath as more effective management based on diverse perspectives. However, when general ideas of collaboration become situated governance projects, issues of equity may come to be secondary in the push to solve specific governance problems pragmatically. For equity concerns, pushes for collaborative governance alone are likely not sufficient, unless problems of equity are baked into the fundamental problematizations at the heart of initiatives and if assumptions of what is possible are carefully interrogated.

Integrative Conservation

The research presented here was inspired by and completed under the Integrative Conservation (ICON) Ph.D. program and its core principles of complexity, pluralism, and context for understanding social-environmental issues. ICON encourages the researcher to cross disciplinary and academic/practice divides and to recognize the partiality of one's own knowledge and viewpoints, the existence of incommensurabilities and tradeoffs, and the recognition of history and inequalities (Hirsch 2012). My engagement with the ICON program began with interest in what it would take to enact these integrative visions of collaboration and communication among people across differences of position, values, and ways of knowing. My dissertation work is in part an attempt to understand how individuals integrate knowledge and navigate tradeoffs within an applied context of collaborative planning and management of a multiple use landscape. In the following, I present the working definition of integrative conservation that both motivated and evolved with my research, the challenges of designing and implementing integrative dissertation research, and how I engaged complexity, politics, and strategic communication in my research.

Defining Integrative Conservation

Integrative conservation in my view is an epistemology, an ethic, and a practice. As an epistemology, it speaks to the complexity of a world that is fundamentally social and ecological and which can be known and understood only from partial, situated perspectives. All the elements, relationships, and processes that make up reality must by necessity be simplified in the process of creating knowledge and knowledge is thus

fundamentally marked by the particular positions from which choices of what to include or exclude are made. No complete picture is possible, but more nuanced understandings of the world can be forged through dialogue among many perspectives and lenses. As an ethic, integrative conservation emphasizes the importance of interrogating issues of power and highlights concern for marginalized voices that must be sought not only as a resources for increasing understanding through additional perspectives but to work towards more equitable research and decision making. This is consistent with the idea that all conservation is political and any framework that encourages a particular way of approaching conservation will thus have ethical consequences.

As a practice, integrative conservation, like collaborative governance, is a messy business. Given the unending and necessary partiality of our knowledge and the recognition that conservation is political and filled with tradeoffs, there is no single or clear way forward. Integrative conservation, however, encourages us to face this challenge and get dirty. Through deliberation, negotiation, and reflection, we can find partial and pragmatic actions and take responsibility for the tradeoffs that such actions will necessitate. The hope of integrative conservation is that a society with a growing number of scientists and practitioners who embrace this epistemology, ethic, and practice will be less prone to hubris of believing that one person or perspective holds all the answers and will develop innovative ways of acting and relating that may improve on the past.

This view of integrative conservation can be helpfully contrasted with a social-ecological systems (SES) perspective, which is also based in a conception of the world as complex and in which the social and ecological cannot be entirely disentangled or viewed

in isolation (Ostrom 2009). However, an SES approach needn't be based in an epistemology in which understanding of complexity is always partial and that further understanding must come from perspectives that may not necessarily be integrated into the SES model. SES models tend to focus on material dynamics and to reify social elements, thus potentially missing meanings, subjectivities, and agency. Indeed, the power of an SES approach is in its ability to make sense of complexity through specific heuristics and models, which provides an important perspective but still a partial one. What integrative conservation adds is the understanding that each perspective, such as SES, is powerful, explanatory, and useful precisely because it is partial and 'wrong'.

A similar case can be made for why integrative conservation is then different from critical environmental social sciences, which share much of integrative conservation's concern with issues of position, perspective, and power. Integrative conservation challenges social scientists to not be satisfied with critique, though this is an important practice and much of the epistemology and ethics embedded within the integrative conservation perspective has foundations in such critical scholarship that has pointed out the failures and inequalities of conservation practice around the world. However, critique by itself can come with its own hubris of ignoring its own partiality and a tendency towards paralyzing rather than moving practice forward. When people attempt to make decisions, they require some sort of coherent narrative to provide some level of understanding and justification (Roe 1994, Leach, Scoones, and Stirling 2010). Even when a dominant narrative is critiqued and thus destabilized, it may continue to underlie decisions if no alternative narrative and set of practices and decisions is put forward. Within an integrative conservation context, such critique and deconstruction

must be accompanied by building and active engagement with the messy, political processes of practice rather than maintaining a position outside.

Challenges of an Integrative Dissertation

Understanding the southern Appalachian landscape and supporting effective and ethical management requires multiple lenses of an integrative perspective. The landscape we see today has been and continues to be shaped by climate, geology, plant and animal communities, various human communities, global markets and migrations, war, disturbances of all sorts and scales, narratives and discourse, and the interaction among all the elements mentioned in this incomplete list. While recognizing the continued partiality of perspectives, richer understanding is possible by bringing various perspectives that focus on these social, ecological, and social-ecological lenses at various time and spatial scales. The Nantahala and Pisgah's planning process brought diverse perspectives and values together in interplays of conflict and collaboration, providing an ideal site to examine how individuals navigate the messiness of social, political, and ecological complexity.

However, centering the processes of collaboration within the forest planning process came with challenges in terms of pursuing some expectations of an ICON dissertation. The research presented in this manuscript draws largely from qualitative social science methods and does not extensively engage with quantitative methods or alternative disciplinary lenses. This is in part a reflection of the complex roots of conflict and collaboration that proved to be fodder enough for multiple dissertations. The gap is also a reflection of the profusion of expertise present within the forest planning process in

terms of both scientific and local knowledge. The forests of the southern Appalachians are well-researched and my attempts to include an aspect of primary ecological or landscape investigation in my work were met by impressive collections of existing and in-progress work relevant to the planning process.

Further, expanding the scope of my research was challenged by the politics of forest planning and negotiating my position within that context. My opening engagement with forest planning was with the Nantahala-Pisgah Forest Partnership (NPFP), and I initially envisioned action research in which I, the researcher, would work with the group to develop research questions and collaboratively produce knowledge that brought together scientific and local knowledge of social and ecological dynamics. However, my research envisioned in terms of supporting the NPFP became less certain with both the evolving context and my evolving understanding of it. Multiple groups, including the Fish and Wildlife Conservation Council (FWCC) and Stakeholders Forum for the Nantahala and Pisgah Forest Plan Revision (SHNP), came to compete over what was truly collaborative and what processes and ideas represented a collaborative path forward. This situation made evident that NPFP was not a neutral collaborative process within which diverse perspectives met and which I could unreflexively support with my research. Rather, it was clear that collaborations were themselves political movements as actors navigated complicated and shifting lines of alliance that I, as a newcomer, did not fully know or appreciate.

As such, a central challenge of my work became negotiating my own positionality and the perceptions of others in a charged atmosphere of distrust among planning participants. In doing this, my research shifted from action research with a single

collaborative effort to seeking to understand the broader lines of conflict and collaboration over the Nantahala and Pisgah National Forests. This demanded significant alteration in my assumptions and expansion of the set of perspectives I needed to engage with and understand, challenging my timeline for inclusion of other disciplinary lenses or a base from which to conduct action research that might combine various sorts of knowledge. My position within the planning process also changed as I sought to keep my mind and research open to understanding the diversity of perspectives and to create connection and trust with a broad set of individuals antagonistic to one another. While I was able to remain supportive of various collaborative efforts (as I will describe in more detail below) the demands of broadening my perspective changed the nature of my research and engagement with the planning process.

Engaging Complexity and Strategic Communication

Integrative conservation did not take the form of mixed methods in my research but manifested in multiple other ways. For example, it manifested in my iterative engagement with the forest planning process. Epistemic humility required that I recognize my own ignorance of the ecological, social, and political context relative to those that lived and experienced these dynamics of forest management. Sensitivity to the evolving context demanded changes in my research questions and how I positioned myself as a researcher in a political context. Further, to engage with the forest planning process and understand what was at stake, it was essential to develop working knowledge of the forest sciences used in conversations, arguments, and plan recommendations. I built on graduate training in landscape ecology and plant community ecology to gain

precise understanding of current science of southern Appalachian forests, including the diverse ecozones and their specific topographic distributions, historic disturbance regimes, patterns of seral stages and importance for plants and wildlife, the characteristics of early successional and old growth forest, and models for natural ranges of variation used to compare to current contexts. This knowledge was critical for conducting my research, though it plays a limited role in my results.

In addition to iterative engagement and developing a strong foundation in the ecological aspects of forest planning, I also pursued integration through commitment to practice and supporting collaborative efforts. While such work was complicated by the evolving political context, I was able to maintain relationships through spreading my time and resources. This, of course, added to my workload on top of research, but was central to my understanding of how to ethically engage and give back to those who made my research possible. For example, I supported the Nantahala-Pisgah Forest Partnership with meeting notes, technical expertise for collaborative mapping, and contribution to a listening process aimed at identifying sensitive issues and potential paths forward. The Fish and Wildlife Conservation Council (FWCC) had a very different model of running meetings, but I also supported their mission in their on-the-ground work, such as volunteer maintenance of national forest roads and wildlife openings.

I supported the Stakeholders Forum with meeting notes during my research and later, as a National Forest Foundation Conservation Connect Fellow, I helped to design and facilitate meetings in addition to notetaking. I specifically helped organize the work and meetings of a small "integrator team" that included representatives of the four interest areas and whose job was to identify and develop areas of agreement. The group

sought to navigate sensitive and contentious issues, and I helped to translate conversation into proposed language for a recommendation document to be revised and approved by members. My work in this role specifically built upon relationships and trust forged through my research and commitment to listening and understanding participants. I also developed a document for public release summarizing lessons learned for collaboration in national forest planning, based on my research, records of National Forest Foundation experiences in forest planning, and interviews with individuals engaged in other forest planning processes.

Of specific note was my work supporting the NPFP's collaborative mapping activities, which constituted part of an ICON internship. I acted in a technical GIS support role and collected, organized, and synthesized spatial data representing various aspects of the landscape and group members' values. Central challenges to this work included the variable access and expertise of NPFP members to GIS data and tools, the inconsistency of members' values and interests in being represented spatially, the variability of scale, grain, and reliability of spatial data, the shear number of potential spatial layers that might be used in mapping, and an unclear vision of what role mapping would play in the group. While NPFP members often spoke of the importance of mapping and how issues would become clear "once we start digging into the maps," there was not a unified vision for mapping in practice. I took care navigating this context in which my own choices in map making could influence the content and character of NPFP conversations and experimented with multiple methods to visualize rich, overlapping sets of characteristics and values of concern to various NPFP members. These maps and others like them formed an important part of group conversations in the forest planning

process as members discussed their overlapping and sometimes competing values in areas scattered across the 1.1 million acres of national forest.

Prior to my work with the NPFP, I completed an initial ICON internship with Southwest Decision Resources based in Tucson, AZ, in which I supported collaborative efforts on the Tonto National Forest, community-based rangeland collaborations, and a multi-day workshop of scientists, practitioners, ranchers, and others focused on management of spring ecosystems. Prior to that, I worked with the Coweeta Listening Project, one part of which meant helping to facilitate translational dialogues to bring scientists and local community members together in the discussion and creation of knowledge. I mention these to draw a line through my graduate career, from the Coweeta Listening Project and Southwest Decision Resources to collaborative mapping and support for the Nantahala-Pisgah Forest Partnership and collaboration support for the Stakeholders Forum for the Nantahala and Pisgah Forest Plan Revision and work with the National Forest Foundation. Throughout my time of envisioning and conducting research for this dissertation, I have been committed to practices of facilitating conversations around issues that are contentious and complex and which touch issues of ecology, identity, politics, and relationships with landscapes.

While my research seeks to understand conflict and collaboration, I have also sought to engage in the fray and learn through experience the practices of facilitation and how to make good use of the limited time, resources, and attention that exists in meetings. It is in such meetings of knowledgeable, passionate, and heterogeneous people that practices of integrative conservation occur. Integration requires that people must meet and communicate, and as is made clear in this dissertation, such meetings are not

neutral or straightforward, but are contexts of contention, performance, reproduction, and potentially transformation. It is through this combination of research and practice of environmental collaboration that I believe my research most reflects the epistemology, ethics, and practices of integrative conservation.

Future Trajectories

Together, the research presented here establishes collaborative forest planning as technical, social, and political, requiring individuals to navigate complexity and uncertainty. Those working through the Nantahala and Pisgah planning process were savvy to these complexities, drawing on experience with the landscape, the Forest Service, agency projects, and other forms of scientific and local knowledge. Participants were also creative in their practices of argumentation – they combined science, ethics, and personal stories to narrate the nature of the forest and the potential for alternative futures. This research suggests the need for scholarship that speaks to collaboration as a place-based practice of creative individuals and which does not reduce collaboration to a technical issue of process and knowledge, a social issue of trust and relationships, or a political issue of power and influence. Rather, efforts to transform governance require negotiation of all these aspects and the inevitable tradeoffs involved.

This suggests a need for work that bridges the various streams of collaboration research. Critical scholarship that points to problematic assumptions and discourses underlying collaborative efforts often appears opposed to work that seeks to understand what leads to the success and failure of collaborative processes abstractly defined. However, critical work might inform the design and implementation of collaborative

processes while recognizing continued constraints and tradeoffs faced by individuals navigating complex local contexts. Similarly, research of collaborative process design and relationship building might inform those seeking to instantiate ideals of equity and diversity of perspective into governance initiatives.

For practitioners, the implications of this research include the explicit recognition that collaborative efforts are always partial and part of navigating social, ecological, and political contexts. Part of pursuing collaboration is thus to create a compelling definition of what collaboration is or ought to be in a given context, which is a politically and ethically loaded endeavor entangled with tradeoffs. Powerful actors may seek to define collaborative governance in ways that maintain their power and legitimize their decisions, and practitioners must attune themselves to the uses of the rhetoric of collaboration and seek forms and definitions of collaboration that address inequalities. While gaps and emphases will be part of any collaborative effort, the limits must be acknowledged and, rather than considered generic "collaboration", collaborative initiatives should always be understood within the context of their limits. Finally, for issues of planning specifically, this research contributes to understanding entangled social and ecological uncertainty, which emphasizes the limits of planning and the need to construct broader alliances that shape the context of plan implementation.

References

Abrams, Jesse. 2019. "The emergence of network governance in US National Forest Administration: Causal factors and propositions for future research." *Forest Policy and Economics* 106:101977.

Hirsch, P. D. 2012. "An integrative framework for working in a world of trade-offs."

Leach, Melissa, Ian Scoones, and Andy Stirling. 2010. *Dynamic sustainabilities: technology, environment, social justice*: Earthscan.

Ostrom, E. 2009. "A general framework for analyzing sustainability of social-ecological systems." *Science* 325 (5939):419-422.

Roe, Emery. 1994. *Narrative policy analysis: Theory and practice*: Duke University Press.